THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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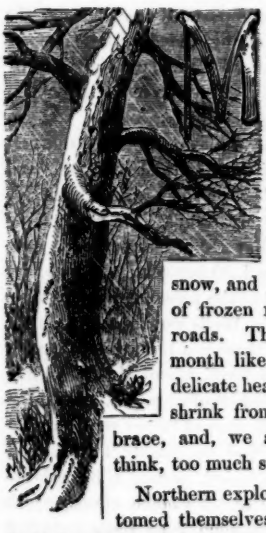
MONTHLY.

SIMON BROWN, S. FLETCHER, } EDITORS.

## THOUGHTS FOR MARCH.

"'Tis ever so. The ties of friend and kin,
Are found most strong and most with pleasure rife,
Among the dwellings of the poor, and in
The unambitious walks of rural life.
With woods around them, waters at their feet,
With flowers beneath, and fragrance in the air,
'Tis not in vain that they each other meet;
Not one, that has a pleasure or a care,
But calls a kindred heart, that joy or grief to share."

PROF. THOMAS C. UPHAM.



ARCH, in the ceaseless round of the seasons, has come again! Constant only in its changeableness. The month of roaring winds and summer airs; of hail, sleet and snow, and genial showers; of frozen ruts and muddy roads. There is no other month like it. Persons in delicate health dread it and shrink from its rough embrace, and, we are inclined to think, too much so.

Northern explorers have accustomed themselves to the cold of the highest latitudes, where proof brandy would freeze and a moment's exposure of the uncovered skin would affect it like a burn. Yet they retained their health and activity to a remarkable degree. But their entrance into such a rigorous climate was gradual, and their clothing accommodated to it as they approached its stern realm.

Such should be the case with us. Not hide away from March for a week at a time in badly ventilated rooms, and then go timidly, and burdened with surplus garments, into the cutting blasts; but, properly protected, boldly face every variety of weather once or twice a day, in some useful calling. This will kindle the blood into a flame, and soon make the system proof against all the vagaries of March.

It is interesting to observe how customs change. It was formerly a custom for persons *to be bled* in the spring, even for those who were well enough, in order to prevent disease. So it was common to marshal a whole family of buxom boys and girls—the latter with rosy cheeks and flashing eyes, and the boys with fists as hard as mallets—and for the good mother to administer to each a teaspoonful of *sulphur and molasses* to ward off the demon of disease.

These things may be done now in some places, but we have seen or heard nothing of them of late years.

Spring may have its peculiar diseases, but well regulated diet, air and exercise will be of incalculably more service in guarding against maladies and keeping the body healthy than

drawing away your heart's blood or swallowing nauseous nostrums.

1. Engage in some employment that will be useful to the world. This will keep the mind occupied and in a calm state.

2. Eat at regular times, plentifully, of plain, nutritious food, and take nothing between meals, except water when thirsty. Especially, eat nothing after an early tea time.

3. If, after these, the bowels seem inactive, regulate them by small doses of aperient medicine—but very sparingly. Fasting, by omitting a meal for several days, might be better.

4. Do not take too much exercise before breakfast, but rather take the breakfast earlier.

"After dinner rest awhile."

5. Do not eat until the appetite craves no more. Too much of any sort of food, but particularly of meat, prevents the natural action of the system and induces disease.

6. Guard against sudden changes of weather. That is, do not remain still in a cold wind when the skin is moist with perspiration. At such times the pores are open, and there is danger that they may be suddenly contracted, not to be easily opened again. This is what is called "taking cold." The pores of the skin are closed so that the heat and "insensible perspiration" cannot escape, and a "raging fever" is often the result.

7. Bathe the whole surface of the body once a week, and rub it lustily.

8. Let us do as much in this direction for ourselves, as we do for our valuable animals, and we shall have little fear of March weather.

## FARM WORK FOR MARCH.

Cellars.—As warm weather approaches, few things are more important about the house than to see that the cellar is in good order. This month affords opportunity for a thorough removal of decayed vegetables, sorting the potatoes for planting, examining the casks, tubs, or whatever vessels are to be used, and to have a general cleansing of this important department.

See that the beef and pork were properly packed, and are in good condition to remain sound during hot weather.

Whitewash the cellar walls, timbers and every part except the bottom. That should be hard and smooth, so that it can be swept and kept clean.

Poultry House.—Eggs and hens too, will be scarce, if the poultry house is infested with vermin. Pour boiling water over the roosts, and indeed, into every crack of the building, if you can, then wash clean with strong soap-suds, and when this is dry, whitewash the whole.

Catch the fowls and rub a little grease under the wing, on the head, and touch various places on the body with it. The fowls will amply repay you for keeping their house scrupulously clean.

Clover Seed.—Sow clover seed this month on lands that were laid to grass last summer or autumn. Six to ten pounds per acre, of red clover.

Sheep.—Feed them on sweet clover hay, an occasional mess of roots cut fine, of corn, or beans, and give them an opportunity to browse pine and hemlock branches, by scattering them about their yards, and they will repay it all with liberal interest at clipping time.

Milch Cows—Breeding Sows—Fruit and Shade Trees—Young Cattle—Colts and Stock generally, how are they prospering?

Maple Sugar.—Has any one thought about it? We have an interest that way.

## PASSAGE OF THE TARIFF BILL.

After some unimportant amendments, the tariff bill reported by the Finance Committee passed the Senate Thursday, Jan. 31st, by a vote of 27 to 10. This is a much larger majority than was generally expected. We understand that the duties on wool are substantially the same as those in the House bill, and considerably higher, on some grades, than was recommended by Mr. Wells. On wool of the first class, valued at 24c or less per lb., a duty of 10c per lb., and 10 per cent., *ad valorem*, is levied, instead of the present rate of 3 to 6c per lb., which Mr. Wells would have retained. On coarse wools there is a reduction of 2c per lb. from present tariff, where Mr. Wells recommended a reduction of 6c per lb. On sheep skins, the present rates of 20 per cent., are increased to 30c; and on shoddy, flocks, &c., 12c per lb. to be levied, instead of 3c, as heretofore. The duties on woolen cloths, which were somewhat changed from those reported by the committee, finally passed as follows: on all woolen cloths valued at $1.50 per pound and less, 45 cents per pound and 25c *ad valo-*

*rem*; over $1.50 and less than $2 per pound, 50 cents per pound and 40 per cent. *ad valorem*; over $2 per pound, 50c per lb. and 45 per cent. *ad valorem*. Mr. Wells proposed 24c per lb., and 35 per cent. *ad valorem*. The bill now goes to the House for its consideration.

## CRANBERRIES.

We find in the recently published transactions of the Essex County, Mass., Agricultural Society, a statement of the mode of cultivation of cranberry meadows, successfully practiced by Gilbert Conant, of Ipswich, for which a premium was awarded by the society.

In the summer of 1861, he commenced on a meadow of about one acre, by cutting a ditch to drain it. The muck which was thrown out paid for the labor of ditching. It was then plowed from four to six inches deep, according to the inequalities of the surface. A small flood-gate was made, at an expense of $5, by which the meadow is flowed annually from about the first of November to the first of May. There have always been some cranberry bushes on this spot, but only a very few were ever gathered upon it previous to 1861, when Mr. Conant commenced operations. He neither planted vines nor sowed the seeds, having found, by experience, that "whenever any meadow adapted to the cultivation of the cranberry is properly prepared, vines will spring up and bear spontaneously." Two loads of sand were spread upon the ice in the winter of 1863, which greatly increased the productiveness of the vines on the spots where the sand was applied. Of the crops for the five years past, Mr. Conant gives the following particulars:

The first summer after preparing the meadow as stated, vines sprang up and grew considerably on the lowest parts of it. The second summer the vines increased and grew rapidly. In the fall of that year I gathered about a half bushel of cranberries. In 1864, the vines blossomed full, and after the berries were set, gave promise of a fine crop; but an early frost, while they were quite green, injured them so that I gathered but about a bushel. In 1865 the vines had increased in some spots on the meadow, so that they had almost killed out the grass, and in the fall, when the berries were ripe, they lay so thick that the vines were scarcely visible. I gathered twenty bushels of cranberries, worth three and a half dollars per bushel. The expense of gathering and marketing these berries was less than ten dollars. This year, 1866, there are but very few cranberries in this section of country, though my vines are bearing better than I have seen any others on fresh meadow.

FINE STOCK.—A correspondent who visited the farm of V. M. Hubbard, Esq., of "North Hollow," Vt., writes us that the twenty-one head of horned cattle, the five horses, and the fifty Spanish Merino sheep, which are fed at his stalls, well deserve an honorable mention. For sheep, in particular, he thinks Mr. Hubbard has a discriminating eye, and that his flock has few equals, even in the famous Champlain valley, as they exhibit marks of superior breeding. He has two bucks which served two hundred and forty-eight ewes,—fifty-five of his own, and the remainder of his neighbors. Mr. H. has three hundred acres of good land, and our correspondent thinks, with such a farm, and such stock, he might be tempted to settle down as a Vermont farmer, himself.

## NEW PUBLICATIONS.

TRANSACTIONS of the Essex Agricultural Society in Massachusetts for 1866.

We are indebted to the Secretary of the Society for a copy of this publication. Hon. Otis P. Lord delivered the address. The Treasurer reports funds on hand to the amount of $9,215.13. The officers for the year ensuing:—President—William Sutton, South Danvers. Vice Presidents—Lewis Allen, of South Danvers; David Choate, of Essex; Josiah Newhall, of Lynnfield; E. G. Kelly of Newburyport. Treasurer, E. H. Payson, Salem. Secretary, Charles P. Preston, Danvers. To say that this issue is equal to its predecessors is the highest praise that the society can desire.

WHAT A FARMERS' CLUB DID.—Mr. Solon Carter, of Leominster, Mass., made the following statement at a late meeting of the Fitchburg Farmers' Club:—

"Before the Farmers' Club was established, Leominster farmers seldom raised 50 bushels of corn per acre, and the average was far below that figure. Now, I think they average near 60 bushels."

STATE BOARD.—John L. Cole, of Williamstown, succeeds Lysander Johnson, of North Adams; and T. D. Thatcher, of Lee, succeeds Harrison Garfield, of the same town, on the State Board of Agriculture of Massachusetts.

The Tobacco Crop.—The St. Louis *Democrat* publishes some statistics of the tobacco crop of the recent season. In Missouri it is reported at from 12,000 to 15,000 hogsheads. This is far below an average crop, but it is said that the quality of the tobacco is unusually good. In Virginia the crop has fallen off one-third—it is reported at 70,000,000 pounds—but is "the best ever made as respects quality." In some counties of North Carolina, lands which had been previously devoted to tobacco were this year planted with cotton. The yield for that State is 35,000,000 pounds. The yield in Maryland is placed at 35,300,000: Tennessee at 39,500,000; Kentucky at 61,000,000; Texas at 90,000; Alabama at 270,000; Arkansas at 1,700,000; Florida and Georgia each 600,000; Louisiana at 40,000; South Carolina at 35,000, and the Northern States at 52,150,500 pounds.

## CAPACITIES OF CULTIVATED SOILS.

Every farmer is aware that soils are of different capacities, some being what is considered naturally fertile or productive, and some nearly barren. Recent investigations of scientific men, and their analysis of the ashes of the various kinds of plants, have imparted many highly valuable and important lessons upon this subject.

If a plant which requires for its healthy development a large per centum of silica, or sand, be planted in a soil which contains but little of this earth in a soluble state, we cannot reasonably expect that it will succeed as well as if the soil contained the element so essential to its physical perfection.

Under such circumstances, the plant, although it may strike root and flourish with great vigor, apparently, for a time, will nevertheless ultimately sicken and die. This result is analagous to depletion, or starvation, in the animal kingdom; the organs demand a principle which they cannot obtain, and disease and death are the inevitable and speedy result.

The presence of sand, clay, and vegetable matter in a soil is deemed indispensable to all crops. Sand is the most essential of the earthly ingredients of soils, and most predominates in them, though where it exceeds eighty-two per cent., the soil is virtually barren; for it is then too porous to retain long either moisture or manure. Silica, or sand, forms so considerable a portion of the ashes of wheat straw, that when they are exposed to the action of the blow pipe, it unites with the potash found also in the straw, and forms an opaque glass.

The same fact applies with equal force to the other mineral accessories of the food of plants, potash, soda, magnesia, lime, &c. Although, in a greater or less quantity, these as well as silex are extant in every soil, yet frequently in too small quantities to produce that condition which we characterize by the term fertility. The following table will tend to illustrate the importance of several of these elements:—

| | *Salts of Potash and Soda.* | *Lime and Magnesia.* | *Silica.* |
|---|---|---|---|
| ***Silica Plants.*** | | | |
| Oat straw with seeds . . | 34.00 | 4.00 | 62.00 |
| Wheat straw . . . . . | 22.00 | 7.20 | 61.05 |
| Barley straw with seeds | 19.00 | 25.70 | 55.03 |
| Rye straw . . . . . | 18.65 | 10.52 | 63.89 |
| ***Lime Plants.*** | | | |
| Pea straw . . . . . | 27.82 | 63.70 | 7.81 |
| Potato (herb) . . . . . | 4.20 | 59.40 | 36.40 |
| Clover . . . . . | 39.20 | 56.00 | 4.90 |
| ***Potash Plants.*** | | | |
| Turnips . . . . . | 81.60 | 18.40 | |
| Beet root . . . . . | 88.00 | 12.00 | |
| Potatoes . . . . . | 85.81 | 14.19 | |
| Sunflower . . . . . | 84.30 | 15.70 | |

Several years ago, the theory became quite popular, that by analyzing the soil we could ascertain what were its characteristics, and that by supplying deficiencies we could render a soil productive of any crop we might be desirous of cultivating. We have no doubt that a correct analysis of a soil would often prove useful to an intelligent farmer; but we greatly doubt whether, with such an analysis, he would be able to supply what he might deem deficiencies, and *always* secure a crop.

There is something in the principles of action, between soil and plant, that is not yet revealed to us. Besides this, to analyze soils, one must be a practical chemist, and few farmers have the time to enable them to perfect themselves in the manipulatory process of this recondite science. Chemistry is undoubtedly essentially aiding us in our labors. The minds of many earnest men are engaged in learning what soils require, in order that they may produce profitable crops. If we feed lime or soda when they require something else, we do not benefit the plants, but sometimes produce actual injury.

So with the other various elements which enter into their structure, and which we are oftentimes required to supply, wholly or in part, by the application of manures.

Science has demonstrated that no inconsid-

erable portion of the food of plants is derived, by absorption, from the atmosphere. Dr. Liebig, in his "Organic Chemistry of Agriculture and Physiology," says: —

"Carbonic acid, ammonia and water, yield elements for all the organs of plants. The atmosphere and the soil offer the same kind of nourishment to the leaves and roots. The former contains a comparatively inexhaustible supply of carbonic acid and ammonia; the latter, by means of its *humus*, generates, constantly, fresh carbonic acid, while, during the winter, rain and snow introduce into the soil a quantity of ammonia sufficient for the development of the leaves and blossoms."

The following table illustrates our meaning in relation to this point, by presenting the general composition of two important field products,—wheat and oats,—as ascertained by Boussingault:—

| *Composition.* | *Wheat.* | *Oats.* |
|---|---|---|
| Carbon | 45.50 | 50.70 |
| Oxygen | 43.10 | 36 70 |
| Nitrogen | 3.40 | 2.20 |
| Hydrogen | 5.70 | 6.40 |
| Ash | 2.30 | 4.00 |
| Total | 100.00 | 100.00 |

*For the New England Farmer.*

## "AGRICULTURAL YEAST."

Doubtless every reader of the FARMER of November 17, noticed an article with the above title, and was induced by its novelty to give it a careful perusal. However earnestly they may wish all success to Mr. "K." in his investigations, there is some question whether the present generation will derive much benefit from the supposed discovery; for nearly two centuries have passed since the idea was conceived, and ten years more must elapse before the public can be initiated into the secret. Until the discoverer perfects his labors, we must toil on, dealing with things as we find them.

Now, are farmers aware that they already possess "an agricultural yeast," about which there are no patents, no secrets nor unfathomable mysteries,—a substance which, if it was regarded and treated purely as "yeast," would materially increase the productiveness of our farms. I mean just what Mr. "K." proposes to supersede—stable manure. Yes, stable manure acts like yeast in the soil, if we choose to let it.

But how does it act as yeast? All soils worth cultivating possess the elements of fertility. Now, some suppose that the tender rootlets can feed upon the coarse, insoluble particles which make up our soils, as a squirrel does upon a walnut. True, these rootlets have great power, and will make a vigorous attack upon solid substances, as is illustrated by the fibres of trees and hardy shrubs and grasses permeating and adhering to an old bone, which chances to lie near them. But before the mass of the soil is available to tender vegetation, or can be converted into plant food, certain mechanical and chemical changes must be effected. The plow, harrow, spade, hoe, frost and wind are among the agents which operate mechanically to pulverize and reduce to a powder the coarse particles. The process by which this dust or powder is made soluble is the work of chemical agents; and among them is stable manure. The excrements of animals, and all vegetable refuse, possess the power of fermentation and decomposition, and when mingled with the soil will induce similar action therein.

Of course the intensity and duration of the action depends upon the condition of both the manure and soil at the time of application. Green, coarse manure, brought to the field before any of its power is expended upon itself, is best. The atmospheric influences which promote fermentation are greatest in spring, before intense heat, drying winds and excessive evaporation prevail, and early in autumn before cold weather checks it. When all this fermenting power has been expended before its application, the manure comes to the land in a dead, passive state, and can have very little action upon it.

By thus regarding manure as yeast, it receives a twofold value; and the reason becomes apparent why some coarse, strong kinds are more beneficial to the land than equal quantities of other kinds which have a larger per cent of the elements of plants; why old, well rotted manure does not last as long as that applied in its green unfermented state.

An old farmer of great practical experience, who has expended thousands of dollars in purchasing manures of all kinds, in all stages of decomposition, told me recently that he had obtained the best results when he applied it directly from the stable, in spring, and covered it immediately. Such a course precludes dealing out homœopathic doses with shovel and spoon to every crop, and favors liberal applications spread broadcast over the land, enriching the soil rather than supplying the wants of the present crop.

With these views, the proper management of manures at the stable is simple and easy. The main point to be observed is to keep down fermentation. The bottom and sides of the manure cellar or pit should be water tight; and instead of resorting to devices to make the hogs root it over, let them tramp it as solid as they will. If this does not keep down fermentation saturate the heap with water from the eave spouts or otherwise. When planting time approaches, fork it over thoroughly, and as soon as the heap is in a state of lively fermentation it is ready for use.

Would you not compost at all? asks one. Yes, in a certain way. I would gather all I

could of vegetation suitable for bedding; also use large quantities of the soil itself, always adapting the kind to the nature of that to which it is to be applied,—choosing muck and rich loams for fields deficient in vegetable matter; sand or a sandy loam, for a clay meadow; and clay, sand or fine gravel for a muck meadow. I would take the subsoil where it was not advisable to use top soils. It should, however, first be exposed to frost, then finely pulverized and kept dry in a place convenient to the stable. The greater comfort of the animals in always having a comfortable bed well pays for collecting these materials.

Dry dirt, which is perhaps the best deodorizer the farmer can use, quickly absorbs urine, which in warm weather soon ferments. Being saturated with urine and thoroughly mixed with the solid excrements, the dirt will be subjected to powerful fermenting influence, and be converted into good manure. The stable floor is the farmer's laboratory,—the place for compounding his "agricultural yeast;" the cellar merely a place for storage; the hogs are stevedores to pack it away.

The amount of manure that can thus be made with one cow or a horse is surprising. With a long row of cattle the quantity will soon bring a large farm into high condition.

There is no necessity for buying largely special fertilizers, at three to four cents per pound, and stable manures at five to nine dollars per cord, and hauling them as many miles, when the farm is well stocked and the requisite materials are collected and properly worked up in the laboratory. On farms of diversified soils, these materials are always near. If not upon the surface they will be found in the subsoil. The forces of nature are sufficient to form plant food out of this crude matter. The work of man is only to bring them together under favorable circumstances; and there will be a real visible "progression of the soil" in fertility, that will make his barns and granaries teem to overflowing. N. S. T.

*Dec.*, 1866.

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*For the New England Farmer.*

## BUYING TREES---No. 2.

Only a few words need be said in relation to the comparative merits of New York trees and those grown in New England. The soil of Western New York is deep, rich and porous. It fosters a rank growth of wood, and produces large roots. The stocks of trees grown in such soil are stout, smooth and vigorous, with tops more evenly formed than those grown in New England. But they are very deficient in fibrous roots, and unless extra pains are taken in preparing the ground, making it fine and rich, their growth will be greatly retarded by transplanting. If they are set in nursery rows in a rich garden plot and permitted to remain two years before setting in the orchard, it will be found that they have made an abundance of fibrous roots and are in the best possible condition for planting.

New England trees, on the other hand, are usually diminutive in size and irregular in shape; but having been grown in a hard, unyielding soil, they have not forced large bare roots down deep into the subsoil, but a multitude of small ones have spread out horizontally from the tree, near the surface of the ground, where they receive the benefit of greater warmth from the rays of the sun, which, in our cold climate, is very essential to the success of the tree. Having made less growth of wood than the New York trees, they will be less liable to be winter killed, and having more roots, they are better prepared to withstand the shock of transplanting.

In respect to apples, the testimony is almost universal in favor of trees grown at no great distance from the locality where they are to be set for fruiting; but pears, when the trees are not injured in transportation or by undue exposure after their arrival, and having received generous cultivation, have succeeded well at great distances from their native nursery. Indeed, it is the practice of many New England nurserymen to buy small trees from the West and treat them in the manner above described.

But having said thus much in respect to the stock furnished by travelling agents, let us consider a few hints in respect to *local* dealers, or those who have a fixed place for doing business, whether it be a nursery in the country, or a salesroom in the city. They have a motive to impel them to upright dealing, which the itinerant has not. They are ambitious to build up a permanent trade in the town or city in which they have established themselves. They expect to have frequent dealings with the same persons. They understand that they are dependent upon the fruit-growers of their immediate vicinity for a permanent and profitable trade.

A tree sold under a false label will injure their future trade more than many times its value. Their recommendation of a new variety, if it prove a failure, will bring disappointment upon those upon whom they are dependent and discourage further planting.

But there are some things to be considered, even in buying of those whose honesty of purpose is unquestionable. If trees are sold from a salesroom, (as they are more and more every year in cities and large towns,) it is necessary to ascertain, by careful examination whether they have been properly protected from heat and cold, and are in a lively condition, especially at the roots; also whether the sorts are kept distinct, so that you may be positive that you are getting what you bargain for.

If you visit the nursery, observe whether the trees have been allowed sufficient space in the rows to ensure symmetry of form and an even development of limbs upon all sides; for if the top has been crowded and pinched out of shape, you may be assured that the roots will

also be cramped and unhealthy, and if the limbs cross each other and are ill-shapen they can never be reduced to a well-formed tree. Select smooth and stocky trunks, and avoid those in which the graft has failed to unite well with the stock, as such trees are liable, sooner or later, to be destroyed by violent winds. Dwarf pears are particularly liable to this fault, and there are three very popular varieties which, for this reason, ought never to be grown as dwarfs. They are the Bartlett, Flemish Beauty and Sheldon.

The principal object sought in planting dwarf trees is *early bearing*, and as the Bartlett fruits upon pear stock in three or four years from planting, there seems to be no necessity for growing it upon quince. The other two sorts spoken of are more tardy in coming into bearing, and are greatly improved, both in size and flavor, by dwarfing. These should be double worked upon quince; or, in other words, a variety should be grafted into quince which unites readily with it, and then, after an interval of one or two years, the desired sort should be grafted into this. Such trees possess a degree of hardihood and a development of fibrous roots which other trees do not.

Above all things, do not buy trees of a *careless* nurseryman. Let his intentions be ever so good, if he neglects in budding to set the proper marks against the different sorts, and also to make a legible entry upon his memorandum-book to be referred to when field marks become indistinct: or if he is not careful, in putting up his orders, to keep the sorts distinct and to have each particular tree bear its appropriate label, he does not deserve your patronage, however excellent may be his trees otherwise. An apothecary is accountable for failing to put the proper label upon the article he sells, and it is generally admitted to be a wise and necessary requirement. Perhaps it would not be unjust to place the nurseryman under the same obligation, for next to having swallowed an unwholesome drug, what greater disappointment than to have carefully nursed a supposed Doyenne du Comice for many years, only to see it bring forth a worthless Catillac? Or like my unfortunate neighbor, to pay fancy prices for Iona and Adirondack grape vines, in anticipation of the honor of being first to exhibit specimens of the fruit at the annual fair, and after careful cultivation for three years, during which time others had obtained a good start with genuine vines, to find that all this care had been wasted upon the unpresuming Hartford Prolific? G. A. A.

*Worcester, Mass., Dec.*, 1866.

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*For the New England Farmer.*

## WHY THE BEES WERE LOST.

I notice, in the FARMER of January 5th, a communication over the signature of "C.," inquiring for information about a hive of bees he had last spring which swarmed on the 8th of July, and after flying some time returned to the hive, and in eight days more swarmed again, but neither the old nor new swarm did well afterwards. In reply to "C." I would say, that in all probability when the bees first came from the hive, the old queen, in attempting to fly with the swarm, dropped to the ground, owing to some defect in her wings, and was neither able to rise nor return to the hive. The swarm circled round awhile and finding no queen, came back and was obliged to stop till a new queen was hatched. That your bees did not do well was owing to the poor season for honey-making, throughout New England. It would have been better for your bees if they had not swarmed, for one strong swarm is worth any number of weak ones. Your old swarm died out owing to the fact that their new queen never became fertile, or she, too, was lost when she left the hive to meet the drones. The remaining bees in the hive died of old age; for the life of no worker bee is longer than eight months, and if they lose their queen and have no eggs to make another, or you have no queen to give them in that time, the swarm ceases to exist.

I have one hundred and fifty swarms on the Sacramento River in California, and I never allow them to swarm. I find that division is much the best way for me to pursue. I lose no swarms and keep them strong all the time.

There will probably be a great loss of bees in New England, this winter and spring, unless considerable attention is paid to them. They should be continually fed from the last of February till they are able to supply themselves from other sources. After they commence breeding they will consume honey much faster than through the months of December and January. I am now wintering through a small colony of Italian bees, containing about one pint of bees, and I find no trouble in keeping them all right thus far, through this cold season, but I manage them entirely different from most bee keepers in this section of country.

S. W. GREENE.

*Salisbury, N. H., Jan.* 7, 1867.

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TOMATOES A PROTECTION AGAINST BORERS.—Mr. H. J. Foster, of Quincy, Mass., informs us that he has an apple orchard which has been badly infested by the borer. Two or three years ago while going over the orchard in the fall and removing from ten to fifteen young borers from most of the trees, he noticed that invariably there were no signs of their work to be discovered wherever a chance plant of the tomato had sprung up from seed in soil or manure. Acting on this discovery, he has since planted tomatoes extensively about his apple trees and quince bushes, and finds it a complete protection, as the beetle which deposits her eggs during the summer months upon the bark of the tree near the ground, shuns every tree near which a tomato plant is growing.

DESIGN FOR A COMPLETE FARM-HOUSE.

Of the above design, which was furnished for the NEW ENGLAND FARMER by Mr. G. E. Harney, the following explanation is furnished by the artist himself:—

When we speak of a *complete* farm-house, our country friends fancy to themselves a dwelling that shall contain every convenience necessary for the carrying on of the household portion of the farm labor; at least such is the idea we have of it, and in the composition of the present design, we have endeavored to supply those conveniences.

There is nothing at all showy about the house, either in design or plan; it is a plain, substantial farm-house, nearly square, with a large L on one side—our aim being to insure convenience even at the expense of ornament—though, we think, after the house has become two or three years old, and brightly flowering vines begin to cover its sides, and trees to throw their shadows upon it, that it will have

a cosy, comfortable, home-like appearance, quite in contrast with the *shingle palaces* of late so fashionable among us.

Our plan comprises the following accommodation: No. 1, hall 7 feet 8 inches by 19 feet, opening into No. 2, parlor, 15 feet by 16; No. 5, bed-room, 15 feet square; No. 3, living-room, also 15 by 16 feet, opening into a back entry, No. 13, and across it into the kitchen, No. 4, 15 feet by 20; this kitchen contains two large closets and connects with a pantry, No. 7, which measures 7 feet by 10, and is fitted up with a sink and shelves. The next room *en suite* is the back kitchen and wash-rooms; it contains two closets, a large oven and boiler, and measures 16 feet by 12; it opens into the back entry, through which we pass to the wood-room, No. 8, 14 feet by 15; No. 10, carriage shed, and No. 9, work shop. The back entry is 4 feet wide, and contains stairs to the chambers and cellar. On the front, doors open into the dairy, No. 11, 7 feet by 14; the store-room, No. 12, 7 feet by 13, and upon the sheltered porch, No. 14.

The second floor contains eight chambers, besides bathing-room, dressing-rooms and closets. The attics may be left unfinished.

*Construction.*—This house may be built of wood, and covered in the common manner with clapboards.

The roof of the main house projects 2½ feet, and that of the L, 1½ feet; the cornices are supported in brackets 3 inches thick. The windows and doors, inside and outside, have plain architraves, 5 inches wide.

Cost in New England, at prices previous to the late war, about $3500.

## FARMER'S WIVES.

The reading of essays by the ladies is one of the exercises which give life and interest to the meetings of the Springfield, Vt., Farmer's Club. From one of the essays by Mrs. Daniel Rice, published in the *Vermont Farmer*, we copy the following paragraphs:

Did you ever think of the amount of thought requisite to *plan* three meals a day for three hundred and sixty-five days in succession? To prepare enough and not too much, and for those living at a distance from the village, to remember that the stock of flour, sugar, tea, etc., etc., is replenished in due time? Do you ever think of the *multitude* of her cares and duties? She must rise early to prepare breakfast or oversee it. Perhaps there are children to wash, dress, and feed, or to get ready for school with their dinners. There is baking, sweeping, dusting, making beds, lunch for the men, may be—dinner and supper to be made ready at the proper time—the washing, starching, folding, and ironing of clothes—the care of milk, including the making of butter and cheese—and the inevitable washing of dishes. In autumn there is the additional work of picking, preserving, canning of fruit, drying apples, boiling cider, making apple sauce, with the still more unpleasant task which falls to her lot at butchering time. Then there is haying, harvesting, sheep-shearing, etc., when more help is needed, bringing an increase of her labors. Twice a year comes house-cleaning. By the way, of all the foes a housekeeper has to contend with, *dirt* is the greatest. She may gain a complete victory and think to repose upon her laurels after her semi-annual engagements—but it is only temporary. The enemy soon returns, and even daily skirmishing does not keep it at bay.

There is the *mending* too. Sewing machines are great blessings, but they can't set in a patch or darn the stockings. I do not mention these things by way of complaining of woman's lot in general, or asking for her any rights which she does not possess. I don't know as there is any remedy in the present state of the world. It seems to be one of the evils of life which must be borne as we bear other ills—but what I do ask is a due appreciation of the important part that woman acts and a concession that her labors, mental and physical, are as great, all things considered, as those of the other sex. Women are not so childish that a little sympathy now and then or acknowledgment of their efforts and sacrifices makes them imagine their case worse than it is. I tell you, men and husbands, "It doeth good like a medicine," and many a poor, crushed, broken-down wife and mother is dying for want of it.

*For the New England Farmer.*

## THE EIGHT HOUR SYSTEM OF LABOR.---No. II.

We have seen that the reduction of the hours of labor one-fifth, will be equivalent, so far as the employers are concerned, to raising wages one-fifth. This is unquestionably the chief object of the agitators of this question. They expect, if they succeed, to obtain the same renumeration for eight hours' labor which they now receive for ten.

But if the profits arising from hired labor are to be reduced one-fifth, how will this effect agriculture? who will be able to undertake any more farming than he can do with his own hands?

Nature has provided long days and many hours of sunlight during the growing season, to hasten forward the growth of vegetation, and to enable the farmer to cultivate and harvest his crops,—thus indicating that more hours are to be spent in labor at that season than in those portions of the year when the facilities for labor are more limited. These portions we occupy largely in consuming the products of the summer, and may improve them for the purposes of intellectual culture, and social enjoyment. Nature thus points out to the husbandman that he should employ the long hours she has provided for him, in cultivating the earth and aiding the growth of vegetation and secur-

ing the products. While the vegetable world sleeps, and the earth is preparing for a new effort she has afforded him less time and fewer facilities for labor, thus showing that it is less necessary. While the earth rests, its cultivators may rest also.

In a warmer climate, and with a richer soil, it is possible that a sufficient supply of food may be produced by the labor of eight or even six hours. But in our rugged clime, and on our hard soil, if we would develop the capacities of our soil, and compete with soils that are better, we must, like the busy bee,

"Improve each shining hour,
And gather honey all the day."

The hours of labor are already reduced to the narrowest limits within which farming by hired labor is sufficiently profitable to induce men to engage in it. A large portion of our enterprising young men refuse to work the soil even now, and with the certainty of still less profit, more of them will seek other employments, or other climes. The only possible way of successful farming will be to let out our work by the job, or on shares, and then we shall find that the foreign laborers who are now so clamorous for an eight hour system, will labor ten or twelve hours without complaint.

The idea that laboring men will cultivate their minds, and thus elevate their social position by laboring two hours less in a day, has but little weight in my mind. Those who have passed the period of youth would not do it, if they labored four or six hours less. Young men who are disposed to improve themselves, and who aspire to distinction, under the present system of ten hours labor, with their four or five hours of leisure, with their holidays and sabbaths, and the evening schools and lectures, and the abundance of books within their reach, can do it now. Such young laboring men in this country, from the days of Benjamin Franklin to those of Abraham Lincoln, have done it, and that they are still doing it, I will call Nathaniel P. Banks, George S. Boutwell and Ginery Twitchell to testify. The resolute purpose and the vigorous habits with which such young men apply themselves to the acquisition of knowledge often enable them to outstrip those who have had earlier and better opportunities. These men are the exceptions. They urge their way onward and upward, "moved by the Divinity that stirs within them." But on the other hand, how few of our young men attain distinction, even with all the advantages of our high schools and colleges, and with the advantage, if it be an advantage, of not being compelled to labor at all in early life? If so large a proportion of these fail, under such circumstances, is it reasonable to expect that the mass of young laboring men will succeed by being relieved from a fifth part of their daily labor?

Young men break down in health much oftener from intellectual than from physical labor. I have known the health of many men destroyed by excessive study; but I have known but few men whose health has failed from excessive labor, and in the few cases that I have known, labor has been accompanied with reckless exposure to the vicissitudes of the weather. I cannot recall a single instance in which the health of a hired laborer has thus failed from excessive labor. In every instance it has been some ambitious young man who was at work for himself, and whose efforts were greater and longer continued than his constitution could endure.

I might enquire how this proposed change would affect various kinds of labor, as for instance, how would it affect the dairyman whose cows require to be milked twice a day? Would both milkings come within the eight hours, and the cows be left unmilked the remaining sixteen? How would it operate with the gardener who stirs the earth around his flowers and tender plants while it is still moist with dew, and transplants in the early morn and protects his plants from the scorching rays of the sun, or still better, at dewy eve? The poetry and fragrance of the garden would both be lost. How will it affect the marketman, who must be in at the opening market, and who now spends eighteen or twenty hours in going to and returning from market? And how about the female help? Why should not their hours of labor be reduced in the family as well as in the mill, and as well as the hours of labor of the men? This would require a change in our whole domestic economy. We should get our breakfast at nine o'clock, and our evening meal at four or five. Perhaps we might soon learn to save one meal, and thus find it an economical arrangement. I might make similar enquires with regard to various other kinds of labor, as that of printers, clerks, hostlers, employees on railroads, bakers, &c., &c. But I think this is sufficient.

The laws of the State secure to labor, especially to mechanical labor, its reward, by giving it a lien upon its products, for security. It also provides most liberally for the education of the children of all laborers. But the very persons who make the loudest demand for the reduction of the hours of labor will not allow their children to avail themselves of the opportunities provided at so great expense, but will keep them employed in the mill nine months in the year, from the time they are ten or twelve years old, and many of them would keep them so employed all the year if the mill owners were not forbidden by law so to employ them. The Legislature of last winter enacted a wise law on this subject, which forbids any child under fourteen years old to be employed in a factory unless it attends school six months in the year, and subjects the mill-owner who employs any such child who has not attended school six months in a year, to a penalty of fifty dollars for each offence. This law will do more in the future to elevate the condition of labor in this commonwealth, than any re-

duction of the hours of daily labor. Experience and common sense will be found safer guides with respect to the hours of labor, than legislation. R.

*Concord, Mass., Jan.* 1, 1867.

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UNFERMENTED MANURE.—Many excellent farmers have an idea that manure to be most efficient in raising crops should be well-rotted; but this is a mistake. Manure loses a very heavy percentage of its real value by decomposition. Fresh manure dripping with animal urine hauled directly from the stable on to the land and plowed under, is worth nearly double that which has decomposed to a saponaceous consistence. When it is convenient for farmers to haul their manure on corn-ground from the stable as fast as it is made, it saves handling it twice, and forwards the work in busy spring time. No fears need be entertained that the atmosphere will carry off the strength of the manure if left on the surface. The only danger to be apprehended by this method will be in case of the ground being frozen and covered with snow or ice when the manure is applied; if upon sloping land the virtue of the manure might wash away; but on level land there is no exception to this plan of operation during the entire fall and winter season.—*Germantown Telegraph.*

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## EXTRACTS AND REPLIES.

### FLOUR OF BONE.

The following "extracts" relating to the different effects of bone in the same town, tend to show that, as "one swallow does not make a summer," so one experiment should not be taken as decisive of the value of any particular fertilizer.

I purchased one barrel of flour of bone for $10.50, and having used it to the best of my ability the past year, must say, as the result of my experience, that I prefer wood ashes, measure for measure. A. TABER.

*Holliston, Mass., Jan.* 2, 1867.

I made use of flour of bone on some turnips (Peruvian,) applying one large spoonful for each plant, standing in rows about eighteen inches apart. On each alternate row I did not put anything. The result was, that in the rows where the flour of bone was applied there was a large yield, the turnips weighing eight, twelve and even eighteen pounds apiece; while in the rows not boned they were very small, and a light yield. On another piece of land, after taking off a crop of early peas, I sowed turnips, and to one-half of the piece applied flour of bone. On that part there was a rank growth, on the other part they were very small. I think flour of bone pays very well on turnips; and the Peruvian to be one of the best varieties.

AARON BRIGHAM.

*Holliston, Mass., January* 5, 1867.

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### BROOMS AND MOP-HANDLES.

The FARMER of January 5th, in speaking of farm implements, says it is poor policy to use those already worn out, or so illy constructed as to be used with great loss of time and strength.

May I be allowed a word concerning the implements daily used in a farmer's kitchen? Much inventive skill and mechanical ingenuity have been expended upon washing machines, wringers, the sewing machines, &c., but no one seems to dream that those things oftenest used are susceptible of improvement. I refer to brooms and mop-handles. Compare these short, stiff, crooked, rough, clumsy articles with the handles of rakes, pitchforks, hoes, &c., made for men's use,—all of suitable material, proper length and size, smoothly turned and nicely sand-papered as they are, and should be.

It is said that a demand will create a supply. Hoping this will not prove an exception to the rule, I ask, in behalf of farmers' wives and daughters, especially, for an improvement in these indispensable articles. And when they are properly made, please don't spoil them with varnish or paint; sand paper is sufficient finish. We want greater length, less size, and a better quality of material. Less sharp corners, less bits of bark left upon them might facilitate their use and tend to keep our hands in better condition to care for the sick, to bind up wounds and sores, and to handle the needle in the hours that must be devoted to the family wardrobe. If the broom-makers will use only good brush, we will gladly pay enough more to enable them to throw away the poor and make fewer in number. A SUFFERER.

*Guilford Centre, Vt., Jan.*, 1867.

REMARKS.—The farming implements that must be purchased in these days cost so much that many farmers feel, as they "sit down and count the cost," that they must save somewhere. And altogether too often this "get-along-for-this-year" economy falls upon the household conveniences. We once saw a Yankee woman, who cooked potatoes for her hogs as well as for her husband, lugging them out of the cellar in a sap-tub without any contrivance for a bail, for want of a light, convenient basket. We didn't see her mop-handles.

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### EFFECTS OF BONE.

MR. EDITOR:—I see by late numbers of the FARMER that there is some dissatisfaction with the results of experiments with the flour of bone. Being unacquainted with this peculiar fertilizer I cannot speak from my knowledge of its effects. But I have for many years given my attention to the cultivation of the soil, and have carefully watched the operation of different manures, both on the soil and the crops, and have come to the conclusion that there is no single fertilizer that is a sure specific for a good crop on all soils and under all circumstances.

I have believed that one of the greatest losses that the farmer suffered, and one which it was most difficult for him to replace, was *bone.* Are farmers aware of the amount of bone or phosphate that is taken from the soil by a single crop? How is it to be restored again? Could we obtain bone in quantities sufficient, and at living prices, I should have no fears of my farm becoming exhausted. It is said that a good cow takes off about 75 pounds of bone in each year in her milk, besides the bones of all animals that are sold from the farm. This repeated for years, and the result is "white-top" in our pastures.

I have used a good deal of plaster, and its operation is a little singular. On some pieces it has showed immediate effects; at other times it takes longer for it to operate. In one instance it did not develop itself till the third and fourth year; but it held out good till the seventh, when I plowed it up. That was last fall, and it remains to be seen what it will do in future. I have known many cases where the soil has been manured well with barn-

yard manure until it seemed to have no effect on the crops, because, as I supposed, a small quantity of some material was wanted. My opinion would be that bone simply ground, would not, in most seasons, be likely to be taken up by the plants in the first year. Again a soil may have enough of this material, but be deficient in something else. Where the white-top flourishes, however, I think its effect must be highly beneficial.

In my view, as valuable a material as bone ground fine should not be condemned on a trial of one, two or three years, for plants certainly cannot take it up till it is dissolved and has time to produce its full chemical effect on the soil and crop. H.

*Epping, N. H., Jan.*, 1867.

### PROFIT OF POULTRY AND PIGS.

The following is my experience for the year 1866, ending December 31st, in raising in a small way pigs and poultry. I have kept an exact account of the expenditures and receipts, as a mere matter of curiosity to myself, and perhaps your readers may be instructed or amused by its perusal, and then judge for themselves between pigs and poultry.

| | |
|---|---|
| In Jan., 1866, I purchased 44 hens, at 50c each . . | $22.00 |
| Fed to them during the year corn amounting to . | 48.00 |
| Total expense . . . . . | $70.00 |
| I sold eggs amounting to . . . . . | $74.73 |
| Poultry . . . . . | 49.15 |
| 44 hens and chickens on hand . . . . . | 22.00—$145.88 |
| Leaving a balance in my favor of . . . . . | $75.88 |

My hens had no extra or particular care. They had the run of my stable and yard attached to the same; that was all.

Now for the pigs:

| | |
|---|---|
| In July, 1866, I bought a sow pig and paid for it . | $20.00 |
| Fed to it and the pigs, at the end of 4 mos., corn . | 20.00 |
| Total expense . . . . . | $40.00 |
| I then killed the sow and sold it for . . | $40.00 |
| Sold 4 of her pigs in the summer for . . | 20.00 |
| I have now 4 pigs worth $10 each . . . . | 40.00—$100.00 |
| Leaving, for the 4 months, balance in my favor . | $ 60.00 |

I estimate that the manure made by the pigs is worth the care of feeding them.

MOSES EATON, Jr.

*South Hampton, N. H., Jan. 5*, 1867.

REMARKS.—The above is a workmanlike statement, and we thank the writer for the communication.

### THE BUTTER REMEDY FOR A FILM.

While sitting by my warm freestone stove, this fifth of January evening, what should come upon my table, with other welcome mail matter, but your enlarged and most acceptable weekly, and the almost forgotten—no! not forgotten; for I can't forget your Monthly, so long as it is my most constant book for reference. Staunch friends, both of them, and I only wish you the patronage you deserve! Then you would need an office as large as Faneuil Hall! But I will not dwell on these topics, though pleasant it is to me, and perhaps gratifying to you. I will say, however, that the FARMER always comes to me as an old, tried and fast friend. May its shadow never be less.

Allow me, right here, to make a suggestion. In your caution to discountenance all humbugs and impositions, please be cautious how you condemn a good thing. Some things recommended by practical men may appear absurd at first sight, yet there is truth at the bottom. You refer in a note to a statement in the *Tribune* about putting fresh butter in animals' ears, to take a film from the opposite eye, and characterise it as "one of the barbarous methods which are sometimes resorted to in the treatment of cattle diseases." I read the notice in the *Tribune* with much interest, as I happen to know something of the use of the remedy. I should say, myself, considering the quantity there recommended, there was a little look of barbarism. But permit me to step right into the ring and defend the fresh-butter remedy, only in a milder way. The remedy was used by my father, as long ago as I can remember. Some thirty-five years ago the pet house dog, old Prince, the pet of us youngsters, got his eye hurt in the woods by a stick switching into it. I remember it well, for I was then a lover of the dog, as most boys are, and we feared the old fellow would be blind. There being no fresh butter in the house, some cream was put into a bottle and shaken till it produced butter. A piece twice as large as a marrow-fat pea was partially melted and put into the ear opposite the affected eye. In a few days the film disappeared, to our great joy. From that time, it became the universal remedy in that vicinity. I have used it many times, and *it never has failed.*

Some few years since, the eye of a colt I was driving, got injured, became inflamed, and finally a film appeared, and was spreading rapidly over the eye-ball. Happening to be in the company of a veterinary surgeon, I submitted the case to him. He said it was a serious injury, and he would take the case in hand for ten dollars. I did not engage him, but decided to try the butter. I did so, and in a few days the eye was all right. A piece as large as a walnut is sufficient for an ox or a horse. I do not remember ever being under the necessity of giving the second dose. Judging from my own experience, it is a *mild and sure remedy.*

*Weare, N. H., Jan.*, 1867. Z. BREED.

### WHY THE BOYS DISLIKE FARMING.

I have seen the question asked in the FARMER several times, Why do our young men have so little taste for farming? I've seen several replies, but no satisfactory ones. Though young and not used to being in print, I venture to offer what, in my opinion, is the true cause. First, a great many boys take no interest in their work because there is nothing to interest them. A farmer's boy is most generally called up before daylight and set to work, hurried through with his meals, and, apparently forgetting that he is a boy, he is kept to work year after year till he arrives at manhood. Now, is there any wonder that a boy gets disgusted with farm life, and longs for the time that shall free him from it? What, then, must be done to obviate this difficulty? If a boy is happy and contented at home, he will never wish to leave when he arrives at manhood; for, if his home is what it should be, it will be to him the happiest spot on earth. To cultivate a love for farming, boys must have something they can call their own. Let them have a sheep, a few hens, or a piece of ground to cultivate for themselves, and above all remember that

All work and no play makes Jack a dull boy.

And now I think if these rules are well observed our farmers will have no cause to ask why our young men leave for the city. CHIEL.

*Shelburne, Mass., Jan. 5*, 1867.

### BOG AND BLOOD SPAVIN.

Bog spavin owes its origin to hard work in early life. It commonly comes in the ham, and is caused by the joint oil of the hock issuing into the membrane that surrounds it, and stagnating under the

vein, causes it to swell. Prick the swelling, but take special care and not injure the nervous cord, as this may bring on the lockjaw. Upon opening the swelling you will find a gelatinous humor to issue from it. Now apply a turnip poultice for a few days, to draw out the humors, and then strengthen the part by bathing it in good brandy. Blood spavin is caused by a vein being ruptured; the blood extravasates, and forms a protuberance. The following remedies are good for bog spavin or blood spavin:

Take a strong mixture of copperas and vinegar, with which rub the parts affected, keeping the horse dry, and stirring him only enough for exercise.

Take about a pailful of urine, into which throw a quantity (the more the better,) of old rusty iron; put the vessel near a fire and let it stand three or four days, stirring it occasionally, when it will be fit for use. Apply this mixture twice a day, and in all cases it will soon effect a radical cure, or prove highly beneficial. S. E. F.

*Monkton, Vt., Dec.* 24, 1866.

### POTATO WATER FOR CHAPPED HANDS AND SWELLED UDDERS.

It is very provoking when I would like to write, to find the ink frozen. I was going to tell of a very simple yet efficacious remedy for chapped hands. It is to wash them frequently in potato water, or the water in which potatoes have been boiled. A few months ago we had a heifer with the udder very badly swollen and quite hard. Several remedies had been tried without success, when I tried bathing it in potato-water and it was completely cured by a few applications. Mrs. ——.

*North Andover, Mass., Jan.*, 1867.

Remarks.—We are very glad that Mrs. —— had the patience to thaw out her ink, and hope that others will find her remedy equally efficacious.

### CARROTS FOR WINTER BUTTER.

In your last week's paper you gave a very interesting account of making butter in the winter. It is worth the price of the paper for one year to many a new housekeeper. Our method of making butter is the same as yours, with one exception. We grate up two or three orange carrots, put them into one quart of milk, then strain and put it into the cream. The butter will look like fall butter, and we think it adds to its flavor. Please try it, and report in your valuable paper.

A Young Farmer.

*Goshen, Vt., Dec.* 26, 1866.

## AGRICULTURAL ITEMS.

—Hon. Andrew D. White, of Syracuse has been chosen President of the New York Agricultural College, known as Cornell University.

—Dr. Boynton mentions five square feet as the smallest proper allowance of space for each sheep in its winter quarters.

—Fourteen thousand bushels of apples have been shipped from Burlington, Iowa, the present season, valued at $12,000.

—"Be thou diligent to know the state of thy flocks, and look well after thy herds, for riches are not forever."

—A young man recently wrote to Mr. Horace Greeley to use his influence in obtaining a situation for him. He received the following reply:—"New York is just entering upon the interesting process of starving out 200,000 people whom war and irredeemable paper have driven hither. It is impossible to receive and employ more till these are gone."

—The two-year-old South Down wether that took the first prize at the last N. Y. State Fair was recently killed and weighed, when dressed, 125 pounds.

—Two correspondents of the *Rural American* say that a few seeds of the *Palma Christi*, or castor bean, scattered about their haunts, will destroy ground moles.

—Success to all Labor,
For toil is man's fate,
And 'tis laboring men only
That can build up our State.

—The Frankville, Ohio, *Pioneer* says there is now living in Sandusky, in that State, a farmer named Matthias Bateman, who, having been born in 1755, is 111 years old. He is quite active yet.

—Roots or grain should be fed to sheep some distance from their pens, says Dr. Boynton, that should they be compelled to get some vigorous exercise in running to and from their feed.

—Mr. Van Alstine, of Columbia county, N. Y., says that with him the best ripened grapes are grown on a clay or slaty soil. On sandy loam he had never succeeded in producing well-ripened grapes; too much wood is grown.

—In consequence of the sanitary measures which were adopted last summer at St. Louis, to prohibit the sale of fruits and vegetables, in consequence of of cholera, large numbers of grapes were suffered to rot upon the vines and ground.

—A Milwaukee paper tells of a butcher in that city who killed a cow, a few days since, and found a live mud-turtle in her stomach. The shell was much eaten by the acid of the stomach, and the turtle lived but a few hours after its release.

—D. C. Comstock, of the U. S. army, writes to the New York *Tribune* that he has seen acres of wild hops, superior to those in some of the Eastern States, growing on the Rio Miembres, the Pecos, and the Rio Bonito rivers in New Mexico.

—Charles A. Peabody, Columbus, Ga., after ten years' experimenting, has succeeded in producing an improved variety of long-staple upland cotton, which for thread manufacturers has been found worth double that of the ordinary upland cotton.

—A correspondent of the New England Farmer writes that six or seven acres of meadow, in the town of Essex, Ct., were prepared and stocked with cranberry plants four or five years ago. This last fall eight hundred bushels of cranberries were gathered on this patch.

—Every flock of sheep in Texas, says Dr. Boynton, must have a shepherd, or the wolves would soon have the better part. Each flock must also be yarded at night, in a wolf-proof pen. A moon

light serenade from those shaggy sheep-hunters is not at all uncommon.

—The late Mr. Eli Keller, of Newark, Ohio, a highly successful breeder of Merino sheep, it is said, never kept a written record of his sheep but was able to give the pedigree of each sheep in a flock of 150, and could remember the form and peculiarities of a sheep for years after he had seen it.

—Butter at St. Albans, Vt., Jan. 4th, was worth from 25 to 38 cents per lb., with a few extra lots at 38 to 40 cents. The St. Albans, Vt., *Messenger* says that B. F. Van Vleet, of Shelburn, sold recently to L. G. Wright, of Weybridge, Vt., 22 head of sheep for $4,500. They leave Shelburn for Ohio this week.

—Honey, like most vegetable products, should be fresh every year. It may easily be kept from one season to another; but when kept beyond that time, unless very carefully stored in a warm temperature, it will crystallize in the comb, and it is liable to ferment when in jars separated from the comb.

—A farmer in Medford, New Jersey, has about one hundred acres planted in cranberries, twenty of which were in fruit last year, and yielded an average of one hundred bushels per acre; in all, two thousand bushels, which brought him, clear of all expenses, $3 per bushel, amounting to $3000 from the twenty acres in bearing.

—The Massachusetts Board of Agriculture have appointed a committee consisting of Messrs. Stedman of Chicopee, Prof. Chadbourne and Prof. Agassiz, to report to the next annual meeting some system by which the Board may collect and embody statistical information relative to the propagation of domestic animals.

—Mr. Pardee, of Illinois, has found that lime slaked in salt brine, sown broadcast, had kept insects from strawberries.

—Minnesota has become a great wheat-producing country, and during the past season has exported over five million bushels, besides that required for the consumption of her own people.

—As curculios prefer plums to any other fruit, the peach growers of Southern Illinois protect their fruit by planting plum trees among their peaches.

—Mr. Colby of Southern Illinois has invented a machine for catching curculios by horse power. It is simply an extension of the hand sheet and jarring process. Two men and two boys can visit 1000 trees per hour.

—An ingenious mechanic a native of New England, has invented a process by which the enamel can be removed from the fibre of the milk-weed. The fibre then becomes equal to cotton—soft, silky, and of great strength. Cloth made from it is stronger than that from any material now known.

—Mr. McClay stated at a late meeting of the Southern Illinois Fruit Growers' Association, that he had known peaches perfectly colorless on account of having been mulched. He objected to sawdust, believing it generates fungi.

—There have been shipped from Quincy, Ill., the past year, between 45,000 and 48,000 barrels of apples, which sold at an average of $3 per barrel. The barrels were new, and made at Quincy, at 60c each. About 80 cents per bushel were paid to the growers.

—The following rule for ascertaining the number of bushels of apples, potatoes, &c., in bins and boxes, is recommended as simple and accurate by a correspondent of the *Mirror and Farmer:* for the number of "even" bushels, multiply the number of cubic feet in the bin by 8 and point off one decimal. For "heaped" bushels, multiply by 8 twice and point off two.

—The sticky or gummy condition of some of the cheaper kinds of curried leather and its liability to crack is said to be owing to the use of fish oil in the finishing. Neat's-foot oil being the product of the bouvine pecies, seems to be naturally adapted to the tanned skin, and the evils alluded to have only appeared where other oils have been substituted by the currier.

—S. P. Snow, of Blakesburgh, Iowa, uses a cheap corn sheller. Bore an inch and a half hole through a two-inch plank; put legs to the plank, making a stool of it about as high as a chair. Over the hole in the plank firmly nail a plate of iron about an eighth of an inch in thickness, and with a hole through the center of the plate, just large enough to admit the passage of a corn cob. Through this hole, with a small wooden mallet the ears of corn are to be driven. This machine, simple as it is, will shell very clean, and with double or triple the expedition of hand-shelling.

—Congress is told by the Memorial of the Vermont Wool-growers, drawn up by Hon. J. W. Colburn, that "the present rates of duty upon wool are totally inadequate to the protection of the American growth and are rapidly tending to break down this production, and build up our foreign rivals, by enabling them, aided as they are by climatic advantages, cheap lands, and cheap labor, to monopolize our own markets, to the exclusion of ourselves, thus leaving our own clips upon our hands, while we are obliged to clothe ourselves and families with fabrics made from foreign wool, and at much higher prices (induced by internal taxation) than formerly, when we held a fair competition in our own markets."

—Daniel Miller, Pierceton, Ind., writes to the New York Farmer's Club, that for two years past farming in Northern Indiana and Southern Michigan, has been carried on under great discouragements, owing mainly to bad weather; and some crops have been total losses. Hence farmers are uneasy, they cannot pay high wages, improvements are suspended, and some seek other business. This is the reason why cities and towns grow so fast,

and there it is almost impossible to find a vacant house. Another cause of discouragement are the high prices which the farmer has to pay for everything he buys.

—Mr. Taber of the New York *Tribune*, makes the following statement as to the cost of keeping a cow during the month of December, last. He bought what he considered the cheapest food, and gave her what she would eat up clean. The record stands :—

| | |
|---|---|
| 310 lb hay, at $1.50 | $4 65 |
| 150 lb buckwheat bran, at $1.10 | 1 65 |
| 121 lb wheat bran, No. 3, at $2.00 | 2 42 |
| 1½ bbls. turnips, at $1.00 | 1 50 |
| Cartages | 1 00 |
| Total | $11 22 |

The cow is of medium size, comes in in May, hence only gives a small amount of milk, still the 134 quarts obtained were sold at twelve cents per quart at the house, or for $16.08, leaving a profit of nearly $5. Another cow furnished milk for the family. At one time he gave her the buckwheat bran freely, but she did not thrive as well upon it, nor was the average supply of milk kept up. The hay was all cut and the other feed mixed with it, wetting the mess.

## MASSACHUSETTS SOCIETIES.

*The Hampshire, Franklin, and Hampden Agricultural Society*, at its annual meeting held at Northampton, January 2, elected the following officers :—President, Milo J. Smith, Northampton; Vice Presidents, Elnathan Graves, Williamsburg; Andrew T. Judd, South Hadley; Rodney Smith, Hadley; J. W. Hubbard, Northampton; Secretary, A. Perry Peck, Northampton; Treasurer, H. K. Starkweather, Northampton; Auditor, Oscar Edwards, Northampton; Delegate to the Board of Agriculture, H. S. Porter, Hatfield.

*The Berkshire Agricultural Society* held its annual meeting in Pittsfield, Jan. 2, and elected the following board of officers :—John L. Cole, Williamstown, President; H. M. Peirson, Pittsfield, Treasurer; John E. Merrill, Pittsfield, Secretary. Alexander Hyde, of Lee, was elected delegate to the State Board of Agriculture.

*The Hampden Co. Agricultural Society*, at its recent annual meeting, elected the following officers :—President, George Dwight, Springfield; Secretary, J. N. Bagg, West Springfield; Treasurer, Jos. E. Russell, Springfield.

*The Agricultural Committee of the Legislature* is composed, on the part of the Senate, of Hon. E. H. Sawyer, of Easthampton, and Hon. Hinsdale Smith, of Agawam. On the part of the House, Dr. George B. Loring, of Salem; Hon. Levi Stockbridge, of Hadley; Col. Daniel Needham, of Groton; A. H. Holland, of Barre, and John E. Merrill, of Pittsfield

Adaptation of Farm Buildings.—The *Prairie Farmer* says that many farmers on the prairies are raising up their buildings. As originally constructed they not only present a *squat* appearance, but being generally placed too near the ground, and without proper stone or brick underpinning, the sills and other lower timbers are found to rot very rapidly. Among the suggestions which the writer makes to those who are altering over old buildings, or erecting new ones, we think the following applicable not only to the farms of the prairies in Illinois, but to those on the hills and in the vales of New England :—

As a general thing, our books and our architects are at fault in regard to farm buildings. We have a new condition of things that changes the whole system of farm barns. The hay fork, the annual cost of material, especially shingles and nails, the railway horse-power, the feed-mills and the enhanced prices of corn and of farm labor to do this muscular work, cheapness, durability and adaptation must be more thoroughly studied.

## STATE REFORM SCHOOL.

We have before us the 20th Annual Report of the Trustees of the State Reform School, at Westboro'. From the statements made we should think the institution has been doing a good work. We take the following items from the report :—

The Trustees have long felt the desirableness of turning as much of the labor of the boys as possible to agricultural pursuits, and especially to gardening, and have, therefore, been yearly extending the grounds devoted to this purpose, and raising thereon a large variety of vegetables and small fruits. We have a tract of about forty acres of plain land, easy to cultivate, and admirably adapted to this purpose; and we have now a vegetable and fruit garden of about thirty acres, which, we think, will compare favorably with any garden of its size in the country.

We are convinced by experience that boys placed with farmers in the country are almost certain to do well, and if not disturbed by their parents, they generally become steady, respectable men; while those placed in large towns and cities are about equally sure to return to their former evil habits. By employing our boys in gardening, we gradually form in them

a love for such labors, and, at the same time we prepare them to be useful at once to the farmers with whom we so much desire to place them.

In common with others, we have been severely troubled during a part of the past year by the prevailing disease of cholera among our swine, brought in by animals purchased at Brighton, causing the death of upwards of sixty hogs and pigs, and compelling us, in order to avoid the infection, to remove our piggery to a new location; thus requiring an outlay of about a thousand dollars for removal and necessary repairs, besides the loss of stock, which cannot be estimated at less than one thousand dollars more.

## DO WE MOW TOO MUCH LAND?

So far as our observation in the dairy districts of this country goes, we must say that altogether too much land is devoted to the production of hay. It would be better to mow less, and let that part of the farm which is to be mowed be so managed that full crops may be obtained, while the balance of the ground may be put to pasture or grain crops. Would it not be better to put thirty acres, for instance, in condition to produce seventy tons of hay annually than to mow over and take care of seventy acres—one ton per acre is about our average—to get that product? At a meeting of the Farmers' Club, at Little Falls, N. Y., a year or two ago, Mr. Lewis, of Frankfort, stated that he grew enough hay on twenty-five acres for the winter keep of fifty head of cattle. The twenty-five acres were annually treated with the liquid manure from his stock. It was absorbed in sawdust, and thus easily distributed. When in England, the past season, among the dairy farms, we found this question studied and reduced to a better system than with us. It is a matter of some importance there to know how to keep a liberal amount of stock on a small space. By increasing your stock, you not only add to the receipts, or income, but add also to the fertility of your soil from the increased quantity of manures. They believe, therefore, in extending the area of pasture lands, converting the green food into milk, butter and beef, while the hay lands are reduced to the smallest compass possible. Wherever they can irrigate a meadow it is done, and large yields result. Some adopt the system of alternate cropping and mowing, in order to keep up permanent meadows, and this, of course, in addition to top-dressings. But they have another system not common in this country, and that is, the production of hay on arable lands, in regular rotation of crops, under the three, four or five course shift. For instance, the rotation may be wheat, turnips, barley, grass. The last may be mowed one or two years, according to the shift adopted, when the land is broken up and put to wheat. Now, under this system, the land when put down to grass is seeded heavily, often with from 1½ to 2 bushels of the lighter seeds and 12 to 15 lbs. of the clovers. The result is an immense yield the first year—as much as 2½ tons and more per acre. I went upon meadows of this description where the yield of hay must have been at least 2½ tons, and I estimated it at 3 tons per acre. Then, in winter, they chop the coarse fodder or straw, and feed it with oil cake, and in this way get along with much less meadow land than do our farmers, besides keeping more stock, and making more and better manure.—*X. A. Willard, in Country Gentleman.*

*For the New England Farmer.*

## HYMN OF THE FARMER.

BY THE PEASANT BARD.

When Adam took the fruit
From gentle Eva's hand,
Then honest Labor first took root
Deep in the virgin land.

For then was earth accurst
That man should toil for bread;
But God for good o'er ruled the worst,
And man was blest, instead.

Blest in the teeming soil
His labor did retrieve;
Blest in his vigor-giving toil;
Blest in beguiling Eve.

Welcome to Labor, then,
That crowns with health our lives!
Hail, Adam, first of Husbandmen!
Eve, first of Farmer's Wives!

But unto God, alone,
Our homage due be given;
Who deigns, as children, us to own,
And breaks us bread from Heaven.

*Gill, Mass.*, 1866.

Experiments with Manures.—E. R. Towley of West Berkshire, Vt., gives in the *Vermont Farmer* the following result of experiments with different kinds of manure on corn, the past season.

The land and cultivation was the same. The ground was an inverted greensward, heavily manured on the surface, and the fertilizers put in the hill. The following was the result when the corn was husked—each plot containing two rows through the fields.

Plot 1, No manure, 2¼ baskets of ears of corn.

Plot 2, A compost consisting of hen manure, ashes, plaster, and earth, 2½ baskets.

Plot 3, Lodi Manufacturing Co.'s Poudrette, 3¼ baskets.

Plot 4, Rotten barn-yard manure 4½ baskets.

Plot 5, Hog manure 5 baskets.

Plot 6, Bradley's X. L. Superphosphate of lime, 5 baskets.

The degree of soundness was in proportion to the yield, the last being the best.

A PURITAN APPLE TREE.

Peregrine White, the first English child born in New England, lived in the eastern extremity of Marshfield, where he also died, in 1704, at the age of 83. His farm was in the possession of a descendant of the fifth generation, of the same name, in 1852. On these premises stands the celebrated tree represented in our engraving. Tradition says it was planted about the year 1648. The owner states that, as far his memory extends, the tree has produced fruit almost every year without interruption. The apples have a superior flavor, being a pleasant sour, and of a beautiful red color. When perfectly ripe, we have rarely eaten a better apple. When the writer visited this tree in 1852, only the right hand branch was standing; this appeared to be a vigorous shoot from the old stock; the residue of the tree, being partially decayed, had been removed.

Every thing that relates to our ancestors, or the times in which they lived, is of interest to us, as their descendants. Would the reader perpetuate his own memory and secure the blessing of coming generations, *let him plant a tree.*

## DAIRYMAN'S CONVENTION.

The Second Annual Convention of the American Dairyman's Association was held at Utica, N. Y., Jan. 6th and 7th. Delegates were present from Vermont and other New England States, from several of the Western States and from Canada, but the convention was largely composed of the dairymen of New York.

In his opening address, the president, W. H. Comstock, of Utica, reviewed the results of the work for the year past. Their representative in England, Mr. Willard, had fulfilled his mission admirably, towards whose expenses $1630 had been paid. American cheese was fast gaining a good name in England. It was used upon the tables of many Englishmen.

The speaker suggested several subjects for discussion, which were subsequently assigned to disputants. Officers were elected as follows:

President—Geo. Williams, of Oneida. Vice Presidents—Hon. B. N. Huntingdon, of Oneida; Seth Miller, of Lewis; M. H. Cochrane, of Canada East; Bradford Stiles, of Madison; Dwight J. Woodworth, Cattaraugus; A. D. Hall, of Ohio; Alanson Slawter, of Orange; A. A. Moore, of Vermont; George Williams, of Oneida; Kinney, of Illinois; C. E. Chadwick, of Canada West.

Secretary and Treasurer—G. B. Weeks, of Verona, N. Y.

### Government Tax on Cheese.

A committee of three was appointed to proceed to Washington to see what could be done in regard to having the tax taken off from factories on the ground of the perishable nature of milk and its productions. In some remarks upon this subject, Mr. Storms of Montgomery said:

A cheese is in its prime at from one to four months old, according to the state of the weather; after that time it begins to deteriorate, and soon becomes too rank for the popular taste. Whether a reduced temperature and an air-tight composition or varnish would maintain the flavor for a greater length of time, remains to be determined by experiment. We are consequently compelled to sell or submit to inevitable loss by holding on.

### Profitableness of Dairying.

In relation to the alleged profitableness of dairy farming, the same gentleman submitted the following figures:

I suppose the average number of acres in dairy farms is about 125, and these should carry, one year with another, 25 cows, a span of horses, and other necessary stock. From these cows there should be made 11,500 pounds of cheese, and butter sufficient for the family, if made at a factory. At 15 cents per pound, this amounts to $1,725. Add $100 for sale of pork, and we have $1,825 as receipts. For expense account, we have interest on land at $80 per acre, and $2,000 in stock and machinery—$840; a man at $30 per month, eight months; a woman at $12 per month; sometimes, and an extra hand in haying and harvest, one month, $52; this amounts to $238, leaving $587, out of which the farmer must board his help, pay taxes, make repairs, and clothe his family. All that remains after deducting reasonable compensation for his own and his wife's labor, need not astonish any body. If, in view of these facts and figures, any one supposes that dairying is so very profitable, their faith must be marvellous indeed.

### Purity of Flavor.

After discussing the expediency of the branch system, the convention considered the question, What are the requisites of purity of flavor in cheese, and how can it be secured?

Mr. G. Williams, President elect, considered purity and flavor to be the essentials of cheese. He did not think the quality of cheese depended altogether upon the manufacturer. It depends mainly upon the kind or quality of grass or grain upon which cows are supported. Grass must not only be pure, but everything with it must be pure. No pasture should be used which is mixed with weeds. Eating these impure articles of food invariably produced impure milk, and no good cheese can be made from impure milk. Cows must be in perfect health. It is the interest of dairymen to select only such cows as will produce pure milk, even sacrificing quantity to quality. Milk must be kept where nothing impure can influence it. Milk is a very susceptible article, and readily partakes of the properties of whatever surrounds it. Onions in the same room with milk will communicate their pungent quality to it.

Mr. Farrington, of Canada West, thought there was danger of getting too much of the water out of curd. Where too much water was taken out sour cheese is invariably the result. Private factories he did not believe to be as good as large factories. He had tried it, and had given it up in disgust. The private system could never be carried out and it never would be tried generally again. Concerning purity in cheese, Mr. Farrington said, the impurity and bad quality of cheese during the past year, was owing in a great measure, to the wet season. Mr. F. discussed this part of the question from a scientific point, attributing the impurity of cheese to the surplus of ammonia in the food of the cows. Upon the question of soil Mr. Farrington agreed with those who held that the quality of cheese depends somewhat upon the soil, citing the fact that different localities produced cheese of very widely different quality.

### Mr. Willard's Address.

An able and extensive address was delivered on Tuesday evening by Mr. X. A. Willard, which occupied about two hours. His lecture treated mostly of English agriculture and matters pertaining to the dairy husbandry of that country, although he travelled through England, Scotland, Ireland, France and Switzerland. He gave a description of the dairy districts of England—the appearance of the country, the character of soil, grasses and manner in which farms are generally conducted. The dairy farmers of America had much to learn in the management of farms. English farming was vastly superior to ours. It may be compared to our garden culture. Weeds are not permitted to get possession of the soil. The English farmer uses more capital in his busi-

ness than we do. His rents and taxation are often more than the whole receipts of a farm of the same number of acres with us, and yet he pays these and makes a large profit.

### Best Stock for the Dairy.

A lengthy debate on the best stock for dairy purposes, resulted in these propositions:

That it is neither safe or profitable to depend on purchasing cows at random for filling up dairies.

That calves can be raised with better results as to cost and quality.

That care should be strictly observed in breeding for the dairy in the selection of the bull as well as the cow, so that the good qualities of the one may not be counteracted by the bad ones of others, and by this means we may be quite sure of superior milkers.

That good cows are cheaper than poor ones, the best way you can fix it.

### Butter from Whey.

A statement was made in relation to a patent for making butter from whey, which brought out the following statement by Mr. Riggs of Lewis county, of his success in this line, without the patent process:

After separating the whey from the curd, place it in a tin vat and add a liquid acid. One gallon to the whey of 50 gallons of milk, if the whey is sweet but less quantity if changed. After this, apply heat until it indicates a temperature of from 200 to 212 degrees, Fahrenheit. When the cream rises and is skimmed off and placed in a cool place, let it stand till the next day. Then it is churned at a temperature ranging from 56 to 68 degrees, depending on the weather, and it is worked over and salted in the usual manner of butter making. It will produce on an average one pound of butter from the whey of 150 pounds of milk. The acid is made by taking any quantity of whey at boiling heat after the cream is extracted, adding 1 gallon of strictly sour whey to 10 gallons of this boiling whey, when all the casein remaining in the whey is collected together in one mass and is skimmed off. After the whey is let stand from 24 to 48 hours, it is ready for use as acid. This process is repeated as often as necessity requires.

### Best Grasses for Dairy Stock.

The kinds of grasses, &c., for pastures and meadows, and for soiling and feeding cows being under consideration:—

Mr. Lewis said he was aware he should meet a fierce opposition in advocating the good qualities of quack grass. He said it was the most tenacious of life and did better than timothy or clover for pasture. Quack grass would grow either end up on the poorest soil, and even on rocks (provided the rocks be covered deeply enough with soil), or even in the best cultivated and richest soiled gardens. Quack produced better hay than timothy for cattle. Mr. Lewis urged upon the attention of the convention the fact that nature never designed that timothy and clover should grow on every kind of soil. Soils that will not sustain those popular grasses will produce abundance of rich hay from other kinds of grass. On the subject of grain Mr. L. said he had not had experience lately in grain feeding. He had let his grain "go to grass" until his friends had called him a Nebuchadnezzar on grass. After mentioning the different kinds of grain and their quality as food for milch cows he advised the feeding first oat meal, second oat meal, and third oat meal, thus expressing his opinion on the grades of grains for food.

The following recommendation was finally read and apparently endorsed by the convention:—

Grasses for hay or meadows on good soils—June or blue grass, timothy, orchard grass, red-top, smooth stalked meadow grass, tall fescue, and fowlmeadow grass.

For pastures on good soils—Clover, red and white, smooth-stalked meadow grass, timothy, orchard grass, meadow foxtail, sweet-scented vernal grass, and last, but not least, June grass.

For pastures and meadows on moist soils—Rough-stalked meadow grass, red-top orchard grass, tall fescue, June grass, and floating fescue.

For soiling—Winter rye, lucerne, red clover, medium, fall oat-grass and millet.

For pastures and meadows or exhausted or wet clay soils—red-top, couch grass, and quack.

The questions as to the best course to be pursued to secure fair prices for cheese, and as to the expediency of publishing a "circular," or paper, were discussed, on Wednesday, and a committee appointed to solicit subscriptions to the latter.

The foregoing brief abstract of the proceedings of the Convention is condensed from a full report in the *Utica Herald*.

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Connecticut River Agricultural Society.—At the annual meeting of this association, at Windsor, Vt., the following officers were elected:—President, Henry Hubbard, Charlestown, N. H.; Vice President, Geo. Olcott, same place; Secretary, Alexander McLane, Fairlee, Vt. Board of Management, in New Hampshire: Hon. Robert Elwell, Langdon; D. F. Tillotson, Orford; Capt. Chester Pike, Cornish; George Rust, Walpole; L. L. Church, West Lebanon; Joseph Powers, Ha-

verhill; F. E. Newcomb, Keene; in Vermont, Nathan Taplin, Corinth; J. D. Wheat, Putney; Eben Bridge, Pomfret: James Y. Prescott, Newbury; Daniel Davis, Jr., Windsor; Richard Bradley, Brattleboro'; George W. Black, Westminster; Darius Russ, Hartford; Jona. Johnson, Bradford; Edward Douglass, Chelsea; H. H. Stone, Bellows Falls; E. R. Jennings, Quechee, and H. W. Kimball, Westminster.

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*For the New England Farmer.*

## SUBSOILING.

Why is there so little said upon the above subject at this time? Is it because the subject was overdone a few years since? My impression was, at that time, that every good farmer would have his subsoil plow and use it constantly. But what are the facts? A few farmers bought the plows and used them for a short time; but, as the evidence comes to me, they are mostly put away with other "rubbish."

The arguments then put forth in favor of subsoiling were good, and generally accepted by the farming community. Those arguments are just as good now. That there is need of breaking the soil below the action of the common plow, is a fact beyond any doubt. No man who is posted pretends to deny the utility of it. No good farmer would object to having his soil loosened to any depth. But most of us object to having the subsoil turned up top. We rather it would lie at the bottom, but in condition to be the receptacle of the roots of whatever crop is grown on the soil. We would be most tenaciously particular to have the soil stirred deeply when roots are to be raised. And very necessary is it, when an orchard is to be set.

But the old subsoil plow, for some reason, is mostly discarded. And why? Because it costs so much to do the work, says one. In subsoiling common old ground, it takes a team at the common plow, and another with the subsoil plow. With most farmers this is a serious objection. We can easily calculate on one team, but when two are required, we find ourselves minus. The difficulty then of doing the work, is obviously the reason why subsoiling has been mostly abandoned. The reasons for it yet remain, and it is a work that will pay, provided it can be reasonably accomplished. Let us see if it can, and what the means we have at hand at this time.

Some eight or ten years ago, an old farmer out somewhere in New York, who had a way of doing his own farming and black-smithing with the same hands, conceived the idea of putting an attachment to a common plow, to be used as a subsoiler, which should be simple, cheap and effective. After various experiments the thing was done. His attachment could be afforded for five or six dollars, and put upon any plow in one hour. He used it himself, and his neighbors about him used it. It was so well liked, that the old man was advised to patent it. He did so, and now in his old age enjoys a competence from this little invention. I refer to what is called "Burnham & Pierce's Subsoil Attachment." Perhaps it has been before alluded to in your columns, in a manner corresponding to its merits. But I fear that this, like many other subjects, will need "line upon line and precept upon precept," to make the farmers believe in it enough to try it. When once tried it is never given up.

It is a trowel shaped implement attached to a bar two feet long. A clamp on the inside of the plow beam holds the top of the bar in place, and a rod running from the plow back, holds the block in its proper position. It runs in the furrow after the plow, and can be raised or lowered at pleasure. When it runs three or four inches deeper than the plow, a good horse extra is required to move it. In order to furnish your readers a little evidence of what practical farmers think of it,—in order to strengthen their faith,—I subjoin a report of a special committee raised by the old Hillsborough County, N. H., Agricultural and Mechanical Society, during its fair last fall.

*To the President and Officers of the Hillsborough Agricultural Society.*

Gentlemen:—The undersigned, a special committee, raised at your fair, October 4th, 1866, to witness the trial of the recently invented Subsoil Attachment to plows, beg leave to report that we witnessed the trial of one attached to a swivel plow by Z. Breed, of Weare, and one attached to a common plow by T. H. Harvell, of Amherst, and hereby express the opinion, that these implements did the work better, and in a more expeditious manner than any we have before seen, and we consider it a valuable appendage.

It can be applied to any sod or breaking-up plow, either swivel or land-side, at moderate expense by any one wishing to adopt the principle of subsoiling. Its operation is to loosen the soil but *not to turn it up.* Henry D. Pierce, T. G. Holbrook, R. Holbrook, Thos. Clontman, David Butterfield, N. F. Richardson, J. G. Morse, George Buss, J. Cleaves, O. B. Clark, E. Ware, T. G. Banks, W. D. Locke.

Subsequent to this trial "W. D. L.," a correspondent of the *Mirror and Farmer*, wrote as follows: "At the late fair at Milford, I had the pleasure of holding, for a few rods, a reversible plow with subsoil attachment. Truly, it was an era in my farming experience, at the age of "three score years." I am sure it was the most perfect plow I ever laid hands upon, turning the rod naturally and completely breaking the subsoil, and pulverizing it in a masterly manner, to any desirable depth below the usual furrow bed. I have had great confidence in subsoiling for twenty years, but had never before seen an implement so well adapted to the work—simple, cheap and durable. I felt proud of the inventive genius of my countrymen of the agricultural class, for it must have been the result of the study of some practical plowman. True, the subsoiler takes more team, but then it does its work so admirably,

so deeply, that the subsequent plowings will be much easier, to say nothing of the increase of crops. I most heartily congratulate the tillers of the soil in view of its general introduction. And then, the hoeing is so much easier, one can hardly refrain from "three cheers for the invention."

Excuse me for this lengthy letter. Perhaps I have taken more space than I should, but having used the implement, and experienced its benefits, I wished to present the evidence. Yours for "the best," always,

*Weare, N. H., Jan.*, 1867. Z. BREED.

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*For the New England Farmer.*

## APPLE TREES---SEEDING LAND---BONES, &c.

MESSRS. EDITORS:—Please accept the thanks of "*An Inquiring Owner of a Muck-bed*" for your replies to inquiries in the FARMER of Dec. 8th. I am not in ecstacies over being made suddenly rich, but shall endeavor to profit by your calculations, and find out by actual trial what benefit there is in the muck, and try to make "two blades of grass grow where only one grows now."

I was also so well pleased with your article on *Pruning Apple Trees*, in reply to a correspondent, and was so convinced by your logic that the first suitable day I went into my orchard and trimmed the trees that were left in the summer.

1. Now I wish to be informed if apple trees set out where old apple trees stood will do as well. My orchard was set out by my father, perhaps 40 years ago, and what trimming it has had was in the spring, when he was ready to plow it. Many of the trees are decayed where the larger limbs were cut off, and do not produce any perfect fruit. I wish to take away those trees this winter, cultivate the ground well during the summer, manuring it well, and next spring set other trees in their places. Will they thrive?

2. I have two acres of stalk ground; on one half of it I wish to sow oats, and on the other plant potatoes, and seed down in the fall with rye and grass. I propose to sow the oats without manure, as it was heavily manured for corn last spring, but to manure for potatoes at the rate of 10 or 12 cords per acre, then sow on ground bone at the rate of half a ton per acre, as bone does better on my land for grass and grain than any other fertilizer that I have ever used.

When is the best time to sow the bone? when the ground is prepared for potatoes, when they are being cultivated, or when the ground is laid down? When is the best time to sow it on the oat ground? and will it pay to plow the oat ground more than once after the oats are taken off?

I would like the experience of others with these crops, and that is why I send these inquiries now, for I feel that the columns of the *enlarged* FARMER will be of too much value to be taken up with my inquiries or experience.

This is a progressive age, and there is a growing interest in agriculture. Farmers, young farmers in particular, are reading more, and are more desirous to acquire information on the subject and to learn the experience of those grown wise in the business, than ever before; and I think I am justified in the assertion that there are more agricultural papers and books read now than in any previous year.

I would therefore like to put one question to our successful and experienced farmers. How can you give your influence to advance the farming interest of New England more than by spending a portion of the cold and stormy days of this winter in giving your experience through the columns of the FARMER on the management of farm and stock? EXPERIOR.

*My Farm, Mass., Dec.* 22, 1866.

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REMARKS.—1. Young apple trees set out where old ones have been growing will undoubtedly do well under proper treatment, although we should prefer another location. They will need a deep, rich soil, and a half peck of unleached ashes strewed around them once in each year. If large trees with overshadowing branches are near, they will affect the young trees; but if 30 or 40 feet away, they will not sensibly injure them, under the treatment suggested for the new ones. It will be of advantage to dig about the young trees whenever the land lies in grass—the broader the diameter the better.

2. Bone acts slowly, and we should therefore sow it when the ground is prepared for the crop—either of potatoes or oats.

The columns of the "enlarged FARMER" will always welcome your inquiries or experience. Would that many others would furnish theirs.

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*For the New England Farmer.*

## THE TARIFF UPON WOOL.

I have watched with deep interest, as have a great many others, all that has been said upon the question of the tariff upon wool; and I see by your issue of Jan. 5, that *you* think that Congress is not going to increase the duties on wool so as to help the wool growing interest. I suppose it is owing in a great measure to the outside pressure or lobbying of the manufacturers. Now it seems to me that the manufacturers are not only injuring the farming interest of the country, but are also cutting their own throats, as the prosperity of the wool-producer and manufacturer are so closely connected that what works for the interest of one *must* work for the interest of the other.

I see it stated that there has been imported

$70,000,000 worth of wool the past year. It seems as though they must see that sending so much money out of the country for wool, while so many of our farmers hold *one* clip, and a great many *two*,—and flooding the country with cloth more than there is any sale for, will not work for their advantage. If that money had been paid out at home much of it would have found its way back to the manufacturers.

In my small circle of acquaintances I know of several old overcoats and cloaks that will have to do duty another year, because "wool don't sell," and I dare say it is so throughout the country. You may say that this only applies to a few,—the wool-growers. But I believe it has a wider application than one would at first think. When the farmers are short for money they do not buy new tools; do not repair their buildings; do not hire help to ditch, and make other improvements on the farm; do not travel for pleasure; *do not buy unnecessary clothing*. This reminds me of a "little story" I once heard my father tell of a very poor neighbor, who lost his cow. It was at a time when cows were cheap, and some of his friends were congratulating him that he could buy another for ten dollars. "Yes," says he, "if you could buy one for two cents, and you hain't got the two cents, what good will it do?"

Our country is broad enough to raise all the wool, and that of *every kind*, that is needed, if it can be properly protected. Although the cloth may cost a trifle more, the money will be here to pay for it with. WOOL GROWER.

*Norwich, Vt., Jan.* 10, 1867.

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*For the New England Farmer.*

## SQUASHES AND WATERMELONS.

### A BIT FOR THE BOYS.

It is no trifle of a matter to know when and how to plant and sow. And then it is something to understand what seeds to put into our land. Seeds may be too old to grow; and they may be too fresh, we know. We shall none of us be too wise, if we study long; and without care we may be quite foolish and wrong.

Last summer I planted about a quarter of an acre of squashes. They were of the Autumnal Marrow. Part of the seeds were several years old, and part were fresh seeds of 1865. They were in the same field, but not mixed together. The ground was all dressed, as nearly as possible, alike. Well, what of it?

The fresh seeds came up more readily, in little if any more than half the time taken by the old seeds. They were all planted on the first day of June, which is as early as I ever want to plant such squashes, except perhaps some to be very early.

The plants from the old seeds had squashes set on them a week or ten days earlier than those from the fresh seeds; and they matured more and better squashes than the others, and no mistake.

It is not always best, boys, to plant fresh seeds. I hold squashes, at least, to be an exception. I like to have seeds selected from the very best, and carefully dried, and then carefully marked in the package, as to the kind, and the year they were raised. The children of young seeds are like unsteady boys, too fond of running about—grow too much vine.

And another bit for the boys. Don't you like good, first-rate watermelons? If you do, the cows do likewise. I like to have enough of them to select the best; and then the cows will pay for what you give them, liberally.

A compost of night-soil, charcoal dust, plaster and muck, will grow as nice watermelons as a king or a cow ought to covet. They are not only very delicious for us poor humans, but they are among the very best bits to bring down a flood of nice, sweet milk. Will the boys about the farm put this in a corner of their thinking-caps for next summer's use? I think they will not regret it, and I know the cows will not. A. G. C.

*Lee, N. H., Jan.*, 1867.

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REMARKS.—In the above writer, the older readers of the FARMER will recognize the well known features of a most genial and well remembered acquaintance, whom we shall all be glad to see more frequently during the present "Happy New Year."

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## EXTRACTS AND REPLIES.

### WARM BREAKFAST FOR THE HENS IN WINTER.

It is a practice with many who keep poultry to feed them these sharp winter mornings with grain so cold and frosty, that our hands ache the little time that is required in throwing it out. Let those who dislike a cold breakfast themselves take a dish of corn and set it under the stove a few moments, or pour hot water on it. It will soon heat either way. After feeding of your poultry, the lively cooing and singing will repay you for your trouble.

Now, Mr. FARMER, if you feel disposed to elevate your eyebrows, because a woman has stepped in your path, my excuse is that had you done your duty, I should not have deemed it mine to speak for the biddies. MILLIE.

*Waterbury, Vt., Dec.* 26, 1866.

REMARKS.—"Elevate the eyebrows?" Why, instead of that, one of our blandest smiles was excited by your humane suggestions. But, dear "Millie," we know of a good woman who not only warms a dish of corn for her hens of a cold morning, but also, very slightly, a dish of clean water, which she thinks adds much to the volume and richness of that song of gratitude which so well repays you for your care and labor.

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### FEEDING BEES.

Information is wanted as to the best time, place and manner for feeding bees. There are almost as many ways of feeding bees as neat stock. I know of no method which possesses any merit but top feeding.

Dissolve the best grade of brown sugar in water, bring to a scald, remove the scum. It should then

be of the thickness of molasses. If too much watered it will cause dysentery. Fill empty comb with this material, and place it in the chamber of a chamber hive; or if in an old-fashioned hive, bore through the centre of the top with an inch and a quarter bit or auger; remove the chips, trim off the splinters with a knife. If, while doing this, the bees manifest a disposition to come up, pour a little of the bee feed in among them, which will keep them down for the time being; then place the comb filled with the bee feed upon the top of the hive and cover with an open inverted box or peck measure. Wrap up the hives with rugs or quilts. The best time to feed them is as soon as possible. The best place is up chamber, directly over the kitchen or living room of the house.

Feed them in this manner right straight along up into the spring, till the bees are so numerous and the weather so warm as to render feeding impracticable. When unusually fine, warm days occur during the winter, set them out on their summer stands and allow them to fly. This must be rigidly adhered to, for to confine bees from fall till spring without an opportunity to fly, is almost sure death to them. By this method I have fed first and second swarms, which did as well and swarmed as early as the best, although extremely deficient of both honey and comb. They need feeding as often as twice a week, or at least seeing to. I am at present feeding four swarms and have never failed. The expense is less than the value of the swarms after they are wintered. It is well known that bees almost always have honey enough to last them till the first or the middle of the winter. But very few swarms accumulated sufficient winter stores the past season. A. LEAVITT.

*Chichester, N. H., Jan.* 15, 1867.

### CLOTH PEDDLERS.

A correspondent in Ashburnham, Mass., thinks that the tricks of irresponsible cloth peddlers in that section ought to be shown up. In the first place, should not the folly of those who buy of such men articles which they do not know the value of, be shown up, till people learn to patronize dealers of known responsibility and character? Our correspondent says:

The one that was here last, said that a great failure had recently occurred in New York, which had sent out a great many teams with directions to sell for what the goods would fetch, even if less than one quarter of the cost of the articles was realized, so as to save something for the company. He said there would be retail teams along in the course of a week, which would sell six to nine quarter cotton cloth for 25c per yard, American calico for 6c, French at 10c, and woolen cloths at prices to correspond. He had samples of the cotton cloths, and a few pieces of woolens with him, which he offered at wholesale,—nothing less than $25. He had a great coat pattern that he said was worth $30 in New York when first put into the store, but he would sell the two-and-a-half yards for $25. I finally bought it for $10. It proves to be cotton warp with fair shoddy filling—a good cloth of the kind, but not what I bargained for. So much for my shave. Would it not be well to put such fellows on paper, that honest people may be put on their guard, if nothing more can be done.

A. W.

### FILM ON AN OX'S EYE.

I noticed in the FARMER of Jan. 5, 1866, an inquiry by "E. E. A.," of Sunderland, Mass., if there is "any simple way to take a film from an ox's eye?" I would say that I have never known the following to fail: take checkerberry leaves, simmer them in lard until they are brittle, and when cooled so that it is barely warm to the touch, apply it to the ox's eye ball, either with a feather or by taking the ox by the horn and turning his head up, so as to turn it into the eye. I prefer the latter.

*No. Sutton, N. H., Jan.* 9, 1867. J. PRESSEY.

REMARKS.—"H. P.," of Wilton, N. H., writes that he has found turkey's oil, applied a few times to the eye with a feather, to effect a cure in both oxen and horses.

### USE OF TOBACCO.

Our long winter evenings have come, and now shall we not have a discussion through your paper on the use of tobacco. INQUIRER.

*Brandon, Vt., Dec.* 21, 1866.

REMARKS.—Were this subject appropriate to our columns, who that has the use of his eyes and nose would seriously argue in favor of a practice which injures health and unfits one for association with the clean and tidy.

### A FINE PIG.

W. H. H. Peabody, of Wilmot, killed a pig, 8 months 20 days old, that weighed when dressed, after hanging up one day, 505 lbs; width across the hips and shoulders 22 inches; length 6 feet. Fed on milk and potatoes to the first of September; since then has had 4 bushels barley, and 13 of corn.

*Wilmot, N. H., Dec.* 24, 1866. A. W. M.

### FOUR GOOD PIGS.

I slaughtered a few days since four Chester Co., pigs, eight months old, which weighed as follows: 276 lbs.; 279 lbs.; 297 lbs.; and 332 lbs.; whole weight of the four pigs, 1184 lbs. D. DWIGHT.

*Dudley, Mass., Jan.* 11, 1867.

### PROFITABLE HENS.

Mr. John Buckman, of Stoneham, Mass., a subscriber to the FARMER, commenced an account, March 1st, with 22 hens. Up to November, the sales from his henery amounted to $126. He had also, 16 nice pullets, worth $1.50 each, or $24. Making the total income $150 up to that time. Grain fed $35. Further particulars promised at the close of the year, March 1st.

### BOOK ON DOMESTIC ANIMALS.

Will you do me the favor to name some practical work or works on the horse and other domestic animals,—not Youatt's or Mason's,—that would suit a small farmer. I do not notice any advertisements of such as I want in your paper.

S. H. MELCHER.

*La Grange, Tenn., Dec.*, 1866.

REMARKS.—There is a work on Domestic Animals, their breeds, management, diseases, &c., by R. L. ALLEN, published in New York; The American Cattle Doctor, by G. H. Dadd; and Cole's, quite a small but good book. As good a work as you can find, probably, is the Farmer's Encyclopedia,—that treats of all stock and all crops on the farm, soils, &c., &c.

### MARKET REPORTS.

Your Market Reports, of which you boast so much, appear to me to fall behind the *New York Tribune* in the price of veal calves, and lump butter, both of which we farmers deal in to some extent, and we want to know the highest as well as the lowest prices of both these articles.

AN OLD SUBSCRIBER.

*Shelburne, Mass., Jan.* 19, 1867.

REMARKS.—Our cattle reporter informs us that he is no better satisfied with his report of veals than "An Old Subscriber" appears to be. In New York calves are sold by weight, as are cattle, sheep, hogs and poultry. But among the peculiar whims which have caused Boston to be nicknamed the "City of Notions," are the habits of allowing five quarters to an ox, of paying for only about two-thirds of his actual live weight, and of buying calves on commission—that is, of giving the drover one dollar, more or less, per head for buying and delivering them. "The highest as well as the lowest prices" of veals, therefore, depends very largely on the skill or luck of the drover in trading with the individual farmers of whom he buys; and consequently the price is decided in the country rather than at Brighton. If not sold in this way they are bargained for by the head—the eyes of drover and butcher being the only standard of weight and price—the range of $5 to $25 each, being often exceeded at each extreme, according to size and quality. How can such an unintelligible style of doing business be intelligibly reported?

Our retail prices of lump butter are corrected weekly by the gentlemen whose names head that table. Our wholesale prices are also corrected weekly from the most reliable financial papers, as well as by dealers in leading articles of produce.

The fancy prices which are paid by a few families for the butter from certain dairies of established reputation for the production of a superior article, are no criterion of the state of the market, and if quoted would tend to raise expectations which would be sure to be disappointed.

### CONVENIENCES FOR WATER—NO. II.

In my last I promised to give examples of failures in the use of the hydraulic ram, and some of the causes of failures.

CASE 1. In a town in Orleans County I knew a farm that was watered by a ram situated at a distance of 150 rods; the water being elevated two hundred and forty feet. The ram was constantly needing repairs, and I was called on to apply a remedy. It had never operated more than two weeks without an entire overhauling, and often a failure of pipes and ram occurred at the same time. My patient was examined. After ascertaining the price the farm would bring, and a careful consideration of the whole case, the best and only practical thing I could recommend was, "Sell your farm, Sir, and buy where water will run down hill, and let this be divided up for pastures." The extreme elevation was too much for a sure operation of the works without an outlay for fixtures that was unwarrantable for the farm. Any practical inquirer would have advised not to put in the work, had there been no pecuniary interest accruing to himself, which should never be in the way.

CASE 2. The opposite extreme. A ram in Windsor County was a failure. The distance was six rods and the elevation about eight feet. The operation was very uncertain. When in operation it threw a large and intermittent stream—and stopped without any cause visible to the owner. On examination I found there was too small an elevation, and the airchamber had no effect. The remedy applied was simply a tight plug of wood at the place of discharge, and instead of an open pipe only an outlet the size of a cambric needle was left. This caused the flow to be checked, and the water retained in the air-chamber, which condensed the air and caused it to expand and contract again at each stroke of the piston. The effect was all that could be desired—a small, permanent stream forcibly ejected from the place of discharge instead of the lazy, intermittent, uncertain stream before.

If the reader will lay these papers aside for future reference it may be of interest, as I propose to mention other cases of failure, from time to time, which may draw out a scientific explanation of the principle involved in the operation of the ram, from some more competent person than myself, and which is not given in the text books of philosophy.

*Orleans County, Vt.*, 1867. P. J.

### PINE TREES.

In the winter season we should all have some forecast for the coming busy months. In my travels I have been struck with the appearance of a piece of road on one side of which, for about one-fourth of a mile, pine trees have been set for the purpose of protecting the road from the high wind. There was much beauty in this arrangement of the highway, and a delightful shade in summer. But its obvious utility was what presented itself most forcibly. How many miles of bleak and drifted roads might be made comfortable and even pleasant in winter by means of this cheap method. How many thousands of dollars might be saved to towns in the item of breaking out highways in winter; besides all the vexatious delays and losses incident to travellers, on account of drifts and blocked up roads.

There are in many of our most enterprising towns, associations formed for the purpose of setting out trees, to improve and adorn the highways and public grounds. Why cannot these tree societies extend their operations so as to embrace improvements of this kind; or, if this is too extensive a field of labor, why cannot they, or other public-spirited individuals, bring the matter to the attention of their respective towns? It seems to me that here is a matter in which almost every town in New England might be greatly benefited by a little expense judiciously applied.

There are also many places where pine trees might be set to advantage around unsightly rocks in fields near the dwelling. A hardy variety of grape might also be planted in such places, and the pine trees, as soon as large enough, would for several years form one of the very best supports. I have had grapes ripen in such pines, uninjured by frosts, a fortnight after the fruit had been destroyed in other localities. E.

*Massachusetts, Jan.*, 1867.

### WINTERING BEES.

I am truly interested in your valuable paper, treating on so many interesting subjects. But the articles on bee management have particularly interested me, especially that written by C. S. Wild, in FARMER of Dec. 29, on keeping bees from perishing during the winter, which I much approve. I think the location has something to do with the success of bee-keeping. The bee house should stand in the warmest place that can be found, so that the bees can, as early as possible, start the

young brood, as this work will be delayed if the place is cold. The building should not be connected with any other building, or fence, to avoid the spiders as much as possible, which devour a great many bees in the course of the season. The house should stand so the sun can shine upon the hives from early morn till evening shade; the back as well as the front being left open, so that the bees will have the same chance to pass in and out both back and front. This gives a draft of fresh air and tends to keep them dry and healthy. This plan is practiced out West. I also noticed that they raised the hive from the bottom board from one-half to one-third of an inch, by a small piece of wood at each corner. This, however, is not done till the white clover heads out, which is considered the best part of the honey season, when it is found that ordinary entrances are not sufficient for the industrious multitudes. At this time there is no danger of swarms robbing or being robbed, but the hives should be let down as soon as the clover season is over.

The hive, if made of boards, should be from one and a quarter to one and a third of an inch thick. If inch boards are used, the inside should be lined with stuff one-fourth or one-third of an inch thick, with a space between of one-eighth of an inch. Then let them be well painted, and oftener than you paint your dwelling-house. A hive of this description, with a decent swarm and plenty of honey, will hardly freeze anywhere. But notwithstanding all this, I recommend friend Wild's plan of packing round the straw. If you have a small swarm, give them a little extra care by puting over them a few old blankets, or something of the kind.

Putting bees in cellars I think is bad policy. The bees get damp, and the comb comes out black in the spring. The bees that make out to live come out generally feeble, so far as my experience goes. The whole secret, then, of wintering bees and having them come out strong in the spring, is a warm place, a warm hive, plenty of honey, and plenty of pure air.

J. C. Hill.

*East Saugus, Mass., Jan. 7, 1867.*

### THINK, TALK, PUBLISH.

I often think that the editor of the Farmer must be a patient man to answer so deliberately, fully and respectfully all the minute,—not to say simple—inquiries that are asked. But, after all, I am not sure you are not doing that which the world stands the most in need of. The whole creation is made up of particles so minute, that we are told the most powerful microscope fails to present to the eye the form of the minutest atom. The world of thought, who shall limit it? And if we think, why not talk? If talk, why not write? But if every one is to write out his own thoughts and keep them to himself, he might as well not write at all. But we are not going to stop there—think and talk we will. Yes, but how are we going to reach the ears of those who are hundreds of miles away from us, when our own voices, at the loudest, cannot reach beyond our own neighborhood? We are going to use the printer; yes, that's it; he will do the job; he will give our thoughts to the winds, which like the seed in its downy balloon, shall be floated to a genial soil, where it shall take root and reproduce its kind.

C. Stearns.

*Ashburnham, Mass., Jan. 5, 1867.*

### FEEDING BEES.

In reply to "P. E. S." in Farmer of Jan. 12, I would say, I know of no way to feed bees if kept in a place as cold as an ordinary bee house. If they need feeding before it is warm enough to fly, they will need it very often, every day or two. They will require about as much care as a pig. The place must be warm enough for them to leave the cluster and go to the feed without becoming chilled. Feeding so often and keeping them so warm will keep them constantly excited, much to their injury. If it is warm enough where the bees are kept for them to go into the chamber of the hive, they can be fed there more conveniently than in any other part of the hive. Candy has been recommended as winter feed for bees. I have tried it with unsatisfactory success. Feeding bees in season, say in July, August or September, will pay; if neglected then, a swarm destitute of honey in the winter is of doubtful value. Refined sugar made into a syrup as thick as it can be kept in that condition is as good feed as can be desired for bees. It must be put into something provided with a floor to protect the bees from being wet with it. The floor may be perforated so as to allow the bees to reach the feed. A wooden feeder in winter is better than a metallic one, because it is not so cold. They will require food not only for themselves but for the the brood, which, in early spring, will be considerable. A weak swarm fed liberally in early will repay it with interest before the season spring is through.

F. F. Fiske.

*Mast Yard, N. H., 1867.*

### EXPERIMENTS WITH SPECIAL MANURES.

I wish to say a few words in relation to my experience in using flour of bone. When new articles are offered for sale, even though highly extolled, I am generally very cautious in beginning with them, first testing them before using them much. The editor of the Farmer, endorsed the flour of bone—said it was a valuable fertilizer, adapted to all soils. I bought two barrels at a cost of over $22. I plowed a piece of lightish, sandy land in my pasture, and put on a light dressing of manure from the barn-yard, and turned it under, doing by the whole field as much alike as possible. I bought fish guano, composted with muck, and spread on and harrowed in, at the rate of between 400 and 500 pounds to the acre. About an acre I reserved and sowed on the flour of bone and harrowed it in, I think about 200 pounds to the acre. The corn all came up well. June was a cold month. It did not push ahead. Where the fish was the corn was thrifty, kept a good color, and yielded a better crop than I expected. Where the bone was used, the corn looked feeble, sickly, and yellow, and produced, by the acre, rather more than half as much as the other, more than one-third of which was unripe. I had another piece of an acre and a half which I manured much better and sowed on flour of bone to give the corn a start, but with no better result than the other. I sowed a strip of grass land with it, in two fields, but never discerned a particle of difference where it was applied. I hope the readers of the Farmer will be benefited by the experience of farmers using it, in different localities and in different States.

Elijah Gunn.

*Montague, Mass., Dec. 31, 1866.*

Remarks.—We are obliged to our correspondent for communicating his experiments. They show the importance of testing all new things in a small way. That his experiments with the bone were unsatisfactory, is not strange. It could hardly be expected that 200 pounds of bone to the acre, in an unfermented condition, would make much change on "lightish, sandy land," with only a "light dressing of manure." If all the manure had been put upon *half* an acre, and the bone flour had been fermented with muck, and applied to the hill, we have no doubt but a paying crop would have been the result. Bone acts very slowly. Even if reduced

to flour, its effects will be slow, unless it is brought into, or very near the putrefactive state before it is used.

The same results, however, sometimes occur in the use of barn manure. We can show our correspondent a smooth pasture, one portion of which was covered with coarse, but rich barn manure, in the autumn of 1865, and another portion of the same piece highly dressed with the liquids from the cattle stalls. In the spring of 1866, the coarse portions of the manure were raked up and carried away, and a luxuriant growth of grass was expected on both pieces; but, lo! it did not come. Spring rains did not give it any unusual vitality, and summer suns and showers came and passed away with the same result! Why? Will our correspondent tell us? We do not know, and can only conjecture. Such cases are not uncommon. Is it strange, then, that similar failures should sometimes take place in the use of a substance so dry and hard as bone?

We hope our correspondent will not be entirely discouraged by one or two trials, but mingle bone with muck or soil, and let it remain until a slight heat ensues, and fermentation takes place, and then mingle it liberally with the soil in the hill, and carefully note the result.

Flour of bone will heat rapidly, and care must be taken not to let it go too far. An experiment showed that a single gill of bone flour, mixed with muck and put in a warm place, gave a heat of 112 degrees, in the course of two or three days.

### THE CONGENITAL SCROTAL HERNIA COLT

For which I asked advice in the FARMER some months since, has entirely recovered, *without* the castration recommended, or any other application! So, also, has my neighbor's colt, in the same condition!

Did any of your readers ever know of such a case, that did *not* recover, if allowed a fair chance?

*Vermont, Jan.*, 1867. LECTUM.

### CURE FOR BOG SPAVIN.

Please advise David George to apply an India rubber bandage for his bog spavin, and keep it on until the swelling is reduced. A. L. T.

*Fitchburg, Dec.* 17, 1866.

### A PAIR OF NICE HOGS, ON UNCOOKED FOOD.

I purchased two pigs, four weeks old, October 16, 1864. They were a small breed, partly Chester County. They were kept mostly on skimmed milk, with a very little meal, till May, 1865. From May to July they were kept almost wholly on milk with a few weeds. When dry weather commenced, not having sufficient milk for them, I began to give them meal, increasing the quantity of meal as the milk lessened. In September, I began to give them potatoes and pumpkins, but did not discontinue the meal. For several months their usual allowance was three quarts of meal three times a day, with what milk we had, and the same quantity of potatoes, or an equivalent in pumpkins. Several weeks before they were killed I began gradually to lessen the quantity of potatoes, but gave them some at every meal. I never cooked anything for them, and never gave anything warm. They were never sick, and never took any medicine. Dec. 15, 1865, one weighed, dressed, 396, the other 342 pounds.

Quite a number of pigs of this same litter were sold to different individuals and killed about the same time, but not one of them, so far as I can learn, weighed over 300 pounds. There are certainly two weighty reasons in favor of giving hogs uncooked food. It saves labor, and avoids all danger of injuring them with hot food. E. B.

*Derry, N. H.*, 1866.

## WOOL-GROWERS' ASSOCIATIONS.

### Pennsylvania.

Our thanks are due to some kind friend for slips of the Pittsburgh, Pa., papers, containing the proceedings of the Wool-Growers of that State, at the annual meeting, Jan. 16th. The following officers were elected:—

President—Dr. F. Julius LeMoyne, of Washington county.

Vice Presidents—James Slocum, Fayette county; J. C. White, Lawrence; H. H. Crell, Greene; J. J. Bard, Butler; George Rea, Westmoreland; J. Hoagland, Mercer; John Cain, Beaver; Gen. Harry White, Indiana; Joseph A. Thompson, Armstrong; Asa Manchester, Washington; Hon. William F. Johnston, Philadelphia.

Secretary and Treasurer—John McDonald Glenn, Alleghany county.

Executive Committee—John Ewing, David Houston, Samuel McFarland, Washington county.

Representative to the National Society—James Slocum, Fayette county.

In some discussion upon the tariff bill, Mr. Lee, of Alleghany expressed fears that if the bill should pass in its present form, eighty-five per cent. of the foreign wools imported would come in at three cents duty; alluding probably to the "third class," which provides for the importation of "carpet wools," at that rate. The same fear has been expressed by others. After a full discussion, however, the following resolutions were adopted as the sense of the meeting:—

That it is of the first importance that the wool-growers' interest of our country should have ample protection; and that the present tariff is wholly inadequate for that purpose; that the association, therefore, respectfully but earnestly urges upon Congress the passage of the tariff bill, on Wool and Woolens, as passed by the lower House of Congress at its last session.

### Ohio.

At the regular winter meeting of the Wool-Growers' Association, at Columbus, Jan. 8, a more elaborate series of resolutions to the same effect were carried nearly unanimously, although a memorial was read by John H. Klippart from the Franklin county society, which set forth in substance, as we learn by the *Ohio Farmer*, that by the arrangement between the Wool-Growers and Woolen Manu-

facturers at Syracuse, and through the action of the Joint Committee of those bodies afterward, the wool-growers had surrendered their rights to equal protection, and had been adroitly over-reached by the manufacturers in the adjustment of tariff duties on wool and woolens.

The following elections were made:—

Hon. Columbus Delano, of Knox county, was elected President; Dr. H. S. Conklin, of Shelby county, Vice President; S. D. Harris, of Cleveland, Secretary and Treasurer; R. M. Montgomery, Representative in the Executive Committee of National Wool-Growers' Association; J. C. Stevens, of Hardin county, J. B. Jamison, of Harrison, and N. S. Townsend, of Lorain, Directors.

A vote of thanks for the untiring labors of their late president, Hon. R. M. Montgomery, then at his post in Washington, was adopted.

### Illinois.

The wool-growers of Illinois met at Springfield, Jan. 8th. The attendance was large,—members from nearly all parts of the State being present. A series of twelve resolutions were adopted, which show that the farmers of that great State are in earnest in their demands that the house tariff bill on wools and woolens, or the one equally protective, now pending in the Senate of the United States, shall become a law of the land. They also resolve, that we are opposed to our country remaining any longer the rag-bag of the world, and that Congress ought to put a stop to the importation of shoddy or woolen rags, either by direct law or such rates of duty as will effectually prohibit them.

Better protection, by State Legislation, from dogs is also insisted upon.

## STATE AGRICULTURAL SOCIETIES.

Maine.—At the annual meeting of the State Agricultural Society, at Augusta, Jan. 16, the following officers were elected:—

President—Seward Dill, of Phillips.
Secretary—Samuel L. Boardman of Augusta.
Treasurer—Wm. S. Badger, of Augusta.
Trustees—Samuel Wasson, of Ellsworth; Warren Percival, of Vassalboro'.

At the annual meeting of the Maine Board of Agriculture, at the same time and place, the election of officers resulted as follows:—

President—Samuel Wasson, of Ellsworth.
Vice President—Asa Smith, of Mattawamkeag.
Secretary—S. L. Goodale, of Saco.
Messenger—Asa R. Boardman, of South Norridgewock.

This Board during its annual session of several days discussed a wide range of agricultural subjects, as will be seen by the following list of topics which were presented by the Business Committee:—

1—Under what conditions will agriculture in Maine be most successful?
2—To what extent can the preparation of the soil for crops be profitably carried in autumn?
3—In what manner and to what extent should farms be fenced?
4—The construction of barns.
5—To what extent should mixed husbandry be practiced?
6—What are the best methods of seeding down to grass?
7—Do health and economy require more attention, on the part of our farmers, to the production and use of garden vegetables and fruits?
8—The imperfect obligations—as their discharge affects the physical as well as moral health of the farmer and his family.
9—Are the direct and indirect advantages of sheep husbandry with the present tariff on foreign wool such as to warrant its increase in Maine?
10—Which is the most profitable, the raising of cattle or sheep?
11—By what practicable method can an effective and useful connexion between the Industrial College and the common schools be affected?
12—Can artificial manures be profitably used, and if so, what kind, and to what extent?
13—The comparative advantages of the culture of Indian corn and the smaller grains.

The *Maine Farmer* of Jan. 24, gives a report of the first five days' proceedings, which we have laid aside for future use.

Connecticut.—At the annual meeting of the Connecticut Agricultural Society, at New Haven, Jan. 9, the following officers were elected:—

President—Ephraim H. Hyde, of Tolland.
Vice Presidents—Robbins Battell, of Norfolk, H. L. Stewart, of Middle Haddam.
Corresponding Secretary—T. S. Gold, of Cornwall.
Recording Secretary—Burdett Loomis, of Windsor Locks.
Treasurer—F. A. Brown, of Hartford.
County Directors—New Haven County, Dr. Charles B. Whittlesey; Hartford County, C. M. Pond; New London County, James A. Bill; Fairfield County, Charles Hough; Windham County, Benj. F. Sumner; Litchfield County, George C. Hitchcock; Middlesex County, P. M. Augur; Tolland County, S. F. West.
Chemist—Prof. S. W. Johnson, of Yale College.

The State Board of Agriculture created by the Legislature in May last, met at the same time and place. The President (*ex-officio* a member) is the Governor of the State; the Vice President is Hon. E. H. Hyde, of Stafford; and the Secretary is T. S. Gold, of Cornwall. The members appointed by the Governor, and confirmed by the Senate, were Hon. Mr. Hyde, Howard Collins, Esq., of Canton, Prof. S. W. Johnson, of New Haven, and Mr. Gildersleeve, of Portland. Each county society, or society receiving State aid, is entitled to name a member.

Ohio.—The *Ohio Farmer* furnishes full re-

ports of the annual meeting of the State Board of Agriculture, at Columbus, Jan. 9th. We have space merely to say that the business committee reported several subjects for discussion, on the first of which, the State Agricultural college, Judge Jones of Delaware county, one of the Commission appointed by the Governor to consider and report upon the subject of location, said that, in his opinion, if the committee had been authorized to locate the college, eligible sites and the necessary funds would have been proffered. The land donated by Congress had all been sold at an average of 53 cents per acre, and had thus availed only about half the amount that was expected. At the close of Mr. J.'s remarks, the convention voted to adhere to the resolution it adopted in its session of 1865, expressing itself in favor of one college and opposed to the division of the funds. Resolutions were presented denouncing monopolies and combinations, and arguing against the enactment of an eight-hour labor law.

The Board organized by the election of Daniel McMillian as President; James Buckingham, Treasurer; John H. Klippart, Corresponding Secretary, and Henry S. Babbett, Recording Secretary.

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Time of Sowing Winter and Spring Wheat.—At a late discussion by the Fitchburg, Mass., Farmer's Club, Mr. Ephraim Graham is reported by the *Sentinel* to have said that winter wheat, if sown the last of August or first of September, is usually a sure crop, but if sown in October, *doubtful*. In case spring wheat cannot be sown as soon as April 20, it is better to seed with some other grain. Mr. Solon Carter, of Leominster, said that wheat paid him less than any other crop. His grass was the most profitable, but he could not get good grass without preparing the land by raising corn.

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Ayrshire Herd Book.—The committee appointed by the "Association of Breeders of Thorough-bred Neat Stock," consisting of G. B. Loring, Salem, Mass., H. S. Collins, Collinsville, Ct., Wm. Birnie, Springfield, Mass., request all breeders and owners of such stock to send in full pedigrees of each animal, with the fee of fifty cents each, that they may be registered in the second volume of their herd book, on or before the first of July next. All letters and money should be addressed to J. N. Bagg, of West Springfield, Mass., who has undertaken the editorship of the new herd book.

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Caledonia (Vt.) Agricultural Society.—At the late annual meeting of the Caledonia County Agricultural Society, the following officers were elected for the year ensuing: E. A. Parks, Waterford, President; H. M. Hall, Burke, W. J. Henderson, Ryegate, Vice Presidents; I. W. Sanborn, Lyndon, T. M. Howard, St. Johnsbury, J. H. George, Hardwick, Secretaries; E. F. Brown, St. Johnsbury, Treasurer.

Resolutions were adopted requesting the Vermont Congressmen to do all they can to secure the passage of a bill to protect the wool-growing interest of the State and nation.

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Sterling, Mass., Farmers' Club.—This town club, with a membership of 121, holds an annual Fair. In September last, $264.84 were distributed in premiums, leaving $283 in the treasury. Joseph P. Heywood, President; Luke Sawyer, Vice President; Ezra Sawyer, Secretary; William D. Peck, Treasurer.

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*For the New England Farmer.*

## MUCK.

At a recent farmer's meeting, at which the "*preparation of manures*" was the subject of discussion, the debate hung for some time upon the question whether *muck* was of any value except as an *absorbent*.

E. B. considered it as possessing intrinsic value of itself as a fertilizer, and said if the droppings from animals were his only resource for enriching his land, he should quit farming at once. He believed that by drawing muck into his yards and letting it lie a few years, he had tripled the products of his farm. He did not think liquid manure, from any animals, required any absorbent in the winter season, the solid part being sufficient to absorb it all. He believed manure is often too strong, and that muck and manure composted together are better than clear manure separate. He had rather have a load of muck than a load of straw. Said corn planted on muck will always come up, if ever so dry! The best corn raised on Col. M.'s farm was raised on clear muck that laid ten years rotting!

D. H. thought turf, or soil, fully as good as muck; only not as light and easy to handle.

Col. M. thought there was a great difference in the quality of muck.

McC. said much depends upon the nature of

the soil, as to the usefulness of muck, whether loamy, sandy or clayey.

C. M. H. said he had bent his long back a good deal shoveling muck. Didn't think it paid; believed the turf from the roadside, or even the dirt under it, worth more than muck.

G. F. N. thought muck had other value than as an absorbent, and believed it "will pay" to cart it two miles, if not more than half way up hill!

A. B. M. would not use wet, low-land muck at all. Had tried spreading it on grass land without any benefit. Said it was naturally sour, and tends to produce sorrel. Was in favor of decayed leaves and other vegetable matter from high lands.

S. H. thought the chief value of muck is as an absorbent.

C. M. H. would rather have straw, and did not think muck worth looking at, only as an absorbent.

F. D. said swamp muck is over 90 per cent. water, and considered it worthless except as an absorbent. The dirt taken from a well bottom, spread around his yard, produced a rank growth of grass!

A. B. M., C. M. H., S. H. and others made similar statements in regard to the effect of the hard-pan taken from four to five feet below the surface and spread upon cultivated fields.

Mr. Editor, what do you say? If the entire value of muck consists in its absorbing property—it may be of importance to some of your readers to know it, as they can get sawdust, India wheat hulls, refuse straw, &c., that will absorb as much liquid, more conveniently and with less labor. Will it pay to dry and house common soil for an absorbent?

*Vermont, Jan.*, 1867. LECTUM.

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REMARKS.—There is a great difference in muck. Some of it is worthless, but not injurious to the soil. Other beds are particularly injurious, as when it is thrown out no plant will spring into life upon it, perhaps for two or three years, until it has been ameliorated by atmospheric action. Good muck that is thrown out in the fall or winter will be generally covered with plants of some kind the succeeding summer.

As an absorbent, muck is certainly valuable. It is our opinion, based upon an extensive use of muck, that two cords of muck and one cord of manure, thoroughly mingled, are as good as three loads of the same kind of clear manure, on any light loams or sandy soils. So think many of the members of the Concord Farmers' Club, if not every one of them. Dana's *Muck Manual* tells us that if two pounds of soda ash, or three pounds of potash are added to 100 pounds of fresh dug peat, *all the good effects of real cow-dung will be produced.*

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*For the New England Farmer.*

## THE SUPPLY OF FRUIT.

In seasons like the past, when the apple and pear crop were so much below the average yield, fruit raisers naturally ask the question, What shall we do to secure our usual supply of fruit for family use, or for the market? The first thought is the danger of depending upon one or two kinds. In such case we are liable to an over supply in one season and a deficiency in another. If the land owner, for example, plants only an apple orchard, he may have all that he wants and an overplus besides when the year proves favorable; but he will be annoyed by a deficiency in unfavorable years. The true way to avoid this is to provide as many legs to one's stool as possible; or, in other words, to secure as great a variety of kinds as may be practicable. We do not mean by this a very large number of varieties of each kind, but a large number of kinds. Thus in one year apples may be abundant, but peaches and grapes may be entirely deficient; during another season the reverse may take place; hence it is desirable to plant all the kinds that are easily cultivated. Taking the circle of fruits, and beginning with strawberries and the earliest cherries, followed by currants, raspberries, the earliest pears and apples, and plums, blackberries, and subsequently by the general supply of apples, peaches, pears, plums and grapes, terminating with the late keeping pears, packed grapes and winter apples,—we shall find on an average a certain percentage or rate of failure in different kinds that may be relied upon. In some localities there will not be one failure in ten among these different fruits; while in others the deficiency may be as one to five, or one to three, as the case may be. All we have to do, therefore, is to enlarge our number so as to insure the certainty of a supply from one or more. The year past, for example, has furnished us with a profusion of strawberries; a good supply of currants, when the hellebore treatment was promptly given to the currant worm; raspberries; a fair supply of blackberries; most varieties of the hardy grape, &c. In my opinion, there should be an increased reliance on the grape, for although it may fail in some seasons, the cause of that failure is unlike that which destroys the crop on most of our fruit trees. The latter is often the result of severe winters, and very frequently it is caused by abundant rains about the time of blooming. But the grape is never winter-killed in the fruit buds, nor by the rains of spring, because the fruit is formed on the new shoots, which grow at a later time in the year. We should, therefore, plant them more extensively for family use. New sorts of excellent quality have been added to our list within a few years,

and much has recently been given to the production of early varieties, while those for winter use have not been overlooked.

Let us compare the grape with the apple as to the amount which may be obtained from a given area of land. The most productive apples, such for instance as the Baldwin and Rhode Island Greening, have yielded in good seasons at the rate of some 400 bushels to the acre, while 100 or 200 are a more common crop. Taking 15 or 20 of the more popular sorts, we shall probably not be able to rely on much more than 160 bushels to the acre, through the vicissitudes of different seasons, or not over three or four tons. Now, in ordinary vineyard management, four tons do not constitute an extraordinary crop even for such excellent sorts as the Isabella, Concord and Delaware. Some of these have yielded over six tons per acre. It may be questioned, therefore, whether, on the whole, the apple orchard will yield more than the vineyard; the latter, it is admitted, requires far more care in cultivation and pruning, and more attention also in preserving the fruit. But we are all learning that fruit should have as much care as corn, turnips, and potatoes, and are becoming willing to give it. While, therefore, we would not diminish the amount given to strawberries, currants, raspberries, gooseberries, blackberries, cherries, apples, peaches, apricots, plums, pears, &c., we especially recommend at the present time a larger attention to the best hardy grapes.

OTIS TINKHAM.

*Lakeville, Mass. Jan.*, 1867.

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*For the New England Farmer.*

## EXPERIMENTS WITH FLOUR OF BONE.

The past season I bought one barrel of flour of bone, made by the Boston Milling and Manufacturing Company; it cost me $11.92. Being partial in its favor, I thought I would give it a fair trial. My farm is mostly of a dark yellow loam, having been formerly covered with a growth of beach, birch, maple, oak, pine, &c.

I planted a piece of corn which had a heavy coat of horse and sheep manure ploughed in. Of this field certain rows were served with a limited amount of compost, made of leached ashes and hen manure; other rows with a compost of night soil and gravel; certain other rows with about a tablespoonful of flour of bone, all being applied in the hill; and other rows were planted without anything in the hill. The result was that where the hen manure and night soil were put the corn got the best start and kept it through the season. At harvesting time I kept two rows served with flour of bone separate, and two rows without anything in the hill. I husked and measured them by themselves, and the difference in the amount of corn from the two lots was almost imperceptible.

On another piece I planted potatoes, on part of which I put a single handful of a compost of sheep manure and leached ashes in the hill, and on the other part of the piece I put about a tablespoonful of flour of bone in the hill. Otherwise there was no manure used on the piece,—which was ploughed the fall before. At digging time, where the sheep manure and ashes were put the potatoes were the best.

On another piece I planted beans. This was well manured with barn-yard manure. skipping certain rows, and noting the product at harvesting time, between the rows to which bone flour was applied and the rows without the flour, and for the life of me I could not tell the difference.

I ploughed up one and three-fourths acres in my pasture last May and planted it with potatoes. I used bone flour on most of it, but left certain rows with nothing in the hill; and certain other rows had about twice as much unleached ashes in the hill, as I applied of bone flour. The result stands thus: nothing in hill, No. 3; flour of bone in hill, No. 2, and unleached ashes in the hill, No. 1. This piece had no other manure than bone and ashes. I am satisfied I am out of pocket for a part of the $11.92 up to this date, but what I *may* get of it in the future I can't tell. If we could have the whole substance of the bone as it comes from the animal,,and not lose a great share of the glue and oil by the process of manufacture, undoubtedly our crops would be more satisfactory than they now are.

*Bradford, N. H., Jan.* 8, 1867. J. F. D.

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*For the New England Farmer.*

## FLOUR OF BONE.

*Messrs. Editors of New England Farmer:*—Your correspondent, Mr. Rufus Nutting, of Randolph, Vt., gives some statements in the last issue of your valuable journal, in reference to Flour of Bone; being, as he states, results of his own personal use of it the last season; and it not being up to his expectations, Mr. Nutting proposes to write solely in the interest of the farming community, *pro bono publico*, and disclaims all intention to injure persons or corporations. We take him at his word, and shall answer him as a man really and honorably anxious only to get at the truth. Mr. Nutting, we presume, will not deny the importance of bone as a manure. That point is too well established to admit of discussion. All scientific authorities, particularly Liebig and Johnston, place it at the *head* of the list of *special* manures, and devote great space to the exposition of its merits. All practical, intelligent farmers equally acknowledge it. In England and the Continent of Europe, where bone has been used very extensively for more than half a century, its value is considered beyond a doubt. In Germany it is rated so high that by law its exportation is forbidden.

The use of bone in all countries, however, has been confined to that which has been simply crushed, or broken into fragments of considerable size. But all the authorities agree in the great advantage of having bone reduced to a powder by mechanical means. Although it has long engaged the attention of inventors, no machine has been made which would reduce bone to powder till the invention of those used solely by the Boston Milling and Manufacturing Company.

Now what the public wishes to be assured of is, whether this pulverized bone, manufactured by this Corporation is *pure* and *unadulterated*. To this we reply, that from the first we have advertised everywhere that its *perfect purity* was preserved; no *adulteration* or *admixture* whatever being introduced, except *five per cent.* of *common salt*, as a preservative when packed in barrels. A guarantee to this effect can be given by this Corporation. We have constantly solicited investigation, and it has been a subject of inquiry by many. We have been permitted by all the agricultural newspapers in this city to refer to them upon this subject for now nearly one year, because they have given our mills, our process and our Flour of Bone a thorough examination.

We should be glad to give Mr. Nutting an opportunity of examining, and here offer him and his friends, through the medium of your columns, a full and free invitation to inspect our works, processes and their results. We guarantee *one thing*, at least:—to satisfy them that we furnish perfectly *pure bone*, ground fine by a strictly mechanical process, without burning or using acids. Of course we do not guarantee that it will prove a success in every description of soil or in every season. Did Mr. N. ever know of any manure which could be absolutely promised to produce the same effect *under every and all* circumstances, all differences of soil, climate, &c., &c.? Is it fair to condemn our article, because, as he states, it once failed with him? We think not. Not to occupy too much of your paper in our matter, we conclude by expressing the hope that Mr. N. will give us an opportunity of becoming acquainted with him personally. For we believe that he will then be satisfied that we, too, also have an interest in the well-being of agriculturists generally, and if honest efforts can prove this, he may rest assured of our making them. Respectfully yours.

A. F. Devereux & Co.,
*Agents Boston Milling and Manuf'g Co.*
*Boston, Mass., Dec.* 14, 1866.

## FERRETS AND RATS.

Rats are a great nuisance. My pig-pens and buildings are overrun with them. I often wish for a pair or two of ferrets and a couple of good terrier dogs. We could have some glorious sport. When I was a boy, in England, I used to keep ferrets, and can well remember many days when I was too sick to go to school; but cannot recall a day when I was not well enough to go "a ferreting!" We used to stack nearly all our grain, and as it was never threshed until the winter, and frequently not before the next summer, the stacks that were on the ground were a favorite haunt for rats. I have seen old stacks that were completely riddled with rat holes—sides, top and bottom. Such a stack afforded real sport for us youngsters. Armed with a good stick, we stood one on each side of the stack. The ferrets, having been fasted over night, were turned into the holes. They would creep along there slowly at first, but as soon as a rat was scented they were more active, and when the game was fairly started Master Rat, or Madam, must make good pace to save their skin. With a rush he leaps from the stack, when a terrier makes short work of him. When the sport is lively, half a dozen or more are on the ground at once, and dogs and boys have all they can do to attend to them.

The smaller the ferret the better, as she can follow the rats more easily and rapidly through the holes. The large male ferrets are seldom as good rat catchers—or more properly, rat *frighteners*—as the small female ferret. If kept perfectly clean and in a warm but well ventilated pen or box, and fed regularly with a little new milk and scraps of fresh meat, birds, heads of chickens, blood, etc.; there is no difficulty in raising them.

Why cannot we keep ferrets in this country? The only difficulty I can think of is our severe winters. But it would seem that this could be overcome by keeping them in a barn cellar and furnishing them with plenty of dry bedding, in which they can burrow and form a nest.

I see ferrets are advertised at $20 a pair! When I was a boy I frequently raised seven, and in one case nine at a litter, and used to feel rich when I could sell the young ones for $1 50 per pair. They breed twice a year; and some of our young farmers' sons, especially in the milder sections, would find a pleasure and profit in keeping them.—*Joseph Harris, in American Agriculturist.*

## BEST WAY OF SEEDING DOWN.

The Harvest Club of the Connecticut Valley discussed this subject, at a late meeting at Thaxter Shaw's, in Montague, Moses Stebbins in the chair. As reported by the *Boston Cultivator*, Thomas J. Field, President of the Franklin County Society, opened the discussion.

He recommended 12 lbs of clover seed, 6 quarts of herdsgrass, and 1 bushel of red top to the acre; also that farmers raise their own seed. The best clover seed in market, he said is that grown in Putney, Vt. Farmers growing their clover seed need not separate the

chaff from it, but should sow both together. Time for sowing herdsgrass, from the 10th of Aug. to the 1st of Sept.: some sow after the 3d hoeing of corn; also with turnips in August. The soil should be well prepared for seeding. He gave an instance of a piece of worn out land that a farmer ploughed 7 or 8 times in one season, sowed it to rye and seeded it down to clover, and got heavy crops of both rye and clover. He advised to use 300 lbs. of Peruvian guano per acre on thin soils, or about twenty bushels of ashes. He would use a bush and roller after seeding down, but preferred the bush if but one is used. Mr. Stedman of Chicopee preferred the roller to the bush.

J. M. Smith of Sunderland, said he cared not to cover hay seed at all—preferred to bush before rather than after sowing it: the fall of rain covers it sufficiently for vegetating: the danger, he remarked, is of covering it too deep. He said red-top runs out clover.

Mr. Taylor of Montague, said he stocked down in the fall, manured with composts, about half as much as in growing corn, say 5 cords per acre, and covered the seed with a horse-rake; he puts sand in his hog pen, and regards muck as good for nothing until put in the barn-yard: oats smother grass—wheat and barley he deemed the best grains to seed after. He thought clover winter killed worse by leaving a rank growth uncut, than by mowing and removing it.

Mr. Soverins of So. Deerfield, used a larger number of kinds of seeds than farmers usually do, whether for meadow or pasture: herdsgrass stools, hence open spaces that should be filled: to seed down for one or two years he would use only clover: on moist land he would use red-top and fowl meadow; till the soil well as for tobacco beds; would bush after seeding: preferred a clod crusher to a roller.

N. A. Smith of Sunderland, regarded herdsgrass as an exhausting crop.

T. K. Brown, of Bernardston, recommended fall seeding, whether the ground be moist or dry. He thinks farmers err in not sowing more red-top; he thought he had tons more of hay the past season for having seeded with red-top, as it is not liable to freeze out, and produces from 2½ to 3 tons per acre; it grew with herdsgrass from 4 to 5 feet in height; in seeding he sowed from 8 to 10 lbs. of clover seed per acre, with from 8 to 12 quarts of herdsgrass and the same of red top: preferred to seed with wheat: seeds also with turnips about the 1st of August, and would neither bush nor roll wet land: would feed off or mow a fall crop of clover rather than let it remain on.

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—W. C. Flagg, of Madison Co., Ill., the owner of a large and profitable farm, estimates that, by the use of mowers, hay-rakes, and horse-forks, he can cut, cure and stack hay at a cost of from $1.00 to $1.50 a ton.

## WINTER FEED AND CARE OF SHEEP.

THE farmer, during a considerable portion of the year, has the whole care of the food of sheep; selects and lays it before them. It has been dried and stored away for winter use, and is fed to them at stated times, so that they have no choosing to do, but must eat such as they can get or go without.

When in the pasture they have a choice; certain plants they reject and modify the quantity of others as their appetite requires,—but during the winter this is entirely under the control of man. In order to produce healthy sheep and good wool, roots are essential in addition to hay and grain. Good muscle-producing food is necessary for wool. Sheep like the potato, turnips of various kinds, beets, carrots, parsnips and mangold wurtzel. A prejudice exists against the use of these roots, which grows out of the erroneous idea that it is very expensive to raise them, and that they are not very nutritious. The argument is, that because the potato contains 80 per cent. of water it is not nutritious and cannot be economical. The same reason may be urged against grass, or against the beef-steak for our own eating.

Numerous experiments show that all stock, even poultry, fed partly upon succulent roots, thrive better and at less cost, than when fed entirely upon hay and grain. "There is something more required in the animal economy than mere nutrition. In some inexplicable way roots are either capable of enabling the animal to extract more nutriment from its other food, or of economizing that which it does extract." Our own practice through many years, satisfies us that, with the aid of modern implements, roots can be raised cheaper than Indian corn, cereal grains or beans as part food for sheep.

Sheep like variety and should be indulged in it. Not to feed a few days or a few weeks on one kind entirely and then change to something else, but to feed a *variety every day*.

Mr. T. L. HARTWELL, of West Cornwall, Ct., writing us, says: "There are none of our domestic animals whose nature seems to require so great a variety of food as the sheep. They will grow restive and uneasy if confined,

even in the best feed, if of one kind, and break out, if possible, and roam over the dry pastures, perfectly contented if they can get sufficient variety to supply the demands of their nature. No amount of grain or roots will compensate for the want of variety."

It has always been our practice to supply the flock with evergreens of hemlock, spruce and the various pines, after they have been feeding for several weeks upon dry food. They will browse them eagerly if scattered through their yards, after January comes in, and they seem to renew their appetite and remain more contented for the indulgence. Sheep should be fed when in fold at least three times a day, and always at the same hour. No animal knows better than a sheep his usual meal-time, or is more impatient of its postponement. The appetite comes with the appointed hour, and the food is then eaten with the greatest relish and least waste.

We say nothing of *weight* or *measure* in feeding. This must be governed by circumstances, but chiefly by the temperature. In cold weather they will require more food; in mild weather less. The lower the temperature the more rapidly heat escapes from the body, and the more food is required to keep it up. Much may be done toward equalizing the heat of the body by proper *shelter*. Sheep will endure a great degree of cold if the weather is dry, and will leave the barn in clear cold nights of winter, when the thermometer ranges near zero, and lie upon the litter in the yards. If allowed to go out of the yard, they will frequently seek some dry elevation to pass the night, even when there is a stiff breeze. But if rain or snow is falling, or if the atmosphere be damp they will seek shelter in their sheds or barn, although the weather may be warm. Their accommodations should, therefore, be so arranged, that they can go in and out at will. Their instincts will govern them correctly in this particular, with the exception, perhaps, of ewes who may come in early.

If these conditions are not observed, the wool will suffer, the food which the sheep eats will, instead of making wool, go to produce heat to keep the body warm. If the sheep are merinos the result will be a weak place in the staple, and dry harsh wool; but if the long-wooled breed, then in the bottom of the staple will be produced another crop of wool, consisting of fine fibres locking with those already produced, which will felt to such a degree as almost to defy the power of man to tear the fleece in pieces when shorn! If the sheep is not sufficiently fed to produce both heat and wool, nature will apply the food where it is most required.

This is the result of food not sufficiently nutritious, as it is also of old sheep and of ewes drawn upon heavily by lambs—in short, whatever interferes with the supply of nutritious food or prevents a proper assimilation and application to the system, tends to produce poor wool. If we desire good wool and heavy fleeces, sheep must leave their winter quarters in as good condition as when they entered them.

In another article, next week, we shall speak of the injurious results sometimes arising from *sudden changes in food* and from *changes in temperature, &c.*

## AGRICULTURAL ITEMS.

—Losses by cattle disease in England are summed up at $17,865,000 in gold.

—The Detroit *Tribune* estimates the wheat crop of Michigan, for 1866, at 12,000,000 bushels.

—The Richmond *Enquirer* has made the discovery that New England farmers "are generally poor, ignorant and unintelligent."

—The Secretary of the Iowa Board of Agriculture claims that full one-third of the receipts of wheat at Chicago are from Iowa.

—Every child that eats fruit should be taught the importance of saving and sowing seeds and rearing them up to fruit bearing.

—In 1860, the United States had more cattle and hogs than any other country. It is thought they now have more sheep.

—It is claimed that Chase Co., Kansas, with a voting population of 226, sold $150,000 worth of cattle, wool and sheep, last year.

—Twenty years ago there were no vineyards in the Department of the Indre, in France; at the present time the extent under vineyards is about 60,000 acres.

—On the pine lands of Georgia, which possess a quick, warm soil, two crops are frequently obtained. A wheat harvest is gathered in June; a corn crop is then planted which ripens by the last of October.

—The State Horticultural Society of Iowa passed unanimously a resolution approving the decision of the Committee in New York, who awarded the "Greeley Prize" to the Concord Grape.

—A Kansas correspondent of the New York *Tribune* says, it is not generally known that wild grasses improve in quality as one goes West. As far West as Colorado the dead grass is nearly as good as oats. In Kansas some good farmers think

the native grass as valuable as timothy. It is certain, however, that Fall frosts take out its life, and cattle quickly fall away. But it is singular that combined with a very little green grass in early spring, cattle quickly get fat.

—The plan of planting a few acres with forest trees, to be used as fuel, and allowed to grow up again, thus furnishing a perpetual supply, is strongly recommended to prairie farmers by some recent writers.

—A Scotch paper says a farmer in that county found two lambs in a culvert where they had been, without any food, for 21 days. A third lamb had died, but these two were still alive, although very weak.

—Hon. Sanford Howard and T. T. Lyon have presented a memorial to the legislature of Michigan for the adoption of some measures to prevent the needless destruction of forest trees in that State.

—The *Utica Herald* quotes Messrs. Corderoy's *Annual Circular*, London, January 1st, as saying that American cheese "where the description is really choice, is as readily taken as first-class Cheddar by ordinary consumers."

—A writer in the *American Stock Journal* says that costiveness and its accompanying evils are the main cause of sows destroying their young, and that green and other proper food are the preventive and cure.

—A correspondent of the Ohio *Farmer* thinks a sow should not be allowed to breed until at least a year old. He thinks that until the boar and sow reach the age of four or six years, their progeny is better than from young hogs.

—J. Harris says, in the *American Agriculturist*, that, on the whole, he does not think it will pay to cook food for neat cattle. He has tried it with milch cows, and thinks it too much trouble. Cooked food for hogs pays best in his opinion.

—Comstock's Rotary Spader, from which much was expected a few years since, as a substitute for the plow, does not seem to be adapted to small farms, nor to those in which there are any stumps or stones. It is liable to choke with weeds or grass, and does not prove to be sufficiently substantial.

—The agricultural statistics of France for the past year are decidedly unfavorable. The grain crop is below an average; potatoes rotting in the store houses; tobacco also affected with a rot; and the silk business presents, perhaps, the darkest feature of the picture.

—A. S. Fuller, of Bridgewood, N. J., offers, through the New York Farmers' Club, one hundred dollars for the best four quarts of raspberries, for general cultivation, as a market fruit. The only restrictions are that the plants shall be hardy and prolific.

—C. Booram, Jr., of a flax mill in New Jersey, told the New York Farmers' Club, that in Western Illinois they are beginning to learn the value of the flax crop. Establishments have been erected for working up flax, which this year yielded a profit of from $30 to $40 an acre.

—The Executive Committee of the Illinois State Agricultural Society, at their recent meeting at Springfield, passed resolutions strongly urging that the funds for the establishment of an Industrial University in the State should be kept together, and that no scheme for their division should be listened to.

—The average price of domestic fleece wool in the United States from 1827 to 1861, was, for fine, 50 3-10c.; for medium, 42 8-10c.; and for coarse, 35 5-10c. Average price for four years, from 1861 to 1865, (during the war,) for fleeces, 63 to 83c.; for pulled, 56 to 61c. Average price for the year 1866, Fleeces, 45 to 72c.; pulled, 29 to 64c.

—A correspondent of the *Country Gentleman* who has this year 1700 bushels of beans to feed to his sheep, considers them worth equally as much as corn. He says it is necessary to feed carefully at first, mixing in some lighter feed, till the sheep become accustomed to them, as beans will clog them sooner than any grain he ever used.

—The rose bugs destroy the grapes of a Newersink, N. J., correspondent of the *Country Gentleman*. He says, fumigation and sprinkling with villainously smelling compounds do not seem to have the least effect. Why, you can soak the little rascals in a mixture of kerosene and sulphur, and they will, after a six hour's bath, come out as lively as ever.

—In consequence of the effects of the cattle plague in England, which appears to have been more disastrous to the products of the dairy than was anticipated, the markets of that country enter upon the year with a meagre stock of inferior quality. American cheese is taking its place by the side of the best English made, and commands so high a price that the *Utica Herald* quoted the price at Little Falls, January 21, at 20c per lb. In London, January 1, from 58 to 74 shillings per 100 lbs.

—A Norfolk, (Eng.) correspondent of the *Country Gentleman*, says that the average rent of farms in that county, the soil of which is by no means first rate, is between twenty-five and thirty shillings—four to five dollars per acre—the tenant paying, tythes, taxes, &c., and finding all the live stock, implements, &c. The old calculation that the tenant ought to have a capital equal to $50 per acre is found of late years to be too small. He says that the rental system, on the whole, "works admirably well."

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GOOD STEERS.—Mr. C P. Whitney, of Westminster, Vt., has a pair of steers, 19 months old the first of November, weighing 2196 lbs., being a gain of nearly 50 lbs. per month since the first of April on simple pasture feed.

## EXTRACTS AND REPLIES.

### PROFITABLE HENS.

I have five hens that laid, on an average, three eggs a day through the fall. About the first of December I removed them to a new house 12 by 6 feet, and 4 feet high, which is "airy, dry and sunny, and protected from winds and dampness." Have used a "variety" of food: "boiled potatoes, mashed with corn meal; dry corn, oats, barley and scraps;" clams and clam shells, "gravel," and "ashes in one corner of their house." Results:—Have had but three eggs since they have occupied their new house. Whose hens can beat mine?

*My Farm, Ct., Jan.* 21, 1867. EXPERIOR.

REMARKS.—The "old speckled hen" of the song is seldom equalled by any of her prosaic descendants, though furnished with the nicest apartments, and allowed to fare sumptuously every day. Mr. Bement puts 80 to 100 eggs as the average production of hens per year. Possibly your hens thought that, after manufacturing "three eggs a day through the fall," they had as good a right to the holidays as Congressmen, or their master's family.

### MANURING LAND FOR GRASS—GREEN OATS OR HUNGARIAN GRASS FOR FODDER.

I have a piece of pretty good corn land which I design to seed down to grass next spring. I have no barn manure to spare to put on it. Will 300 pounds of flour of bone and three bushels of salt per acre, be sufficient dressing to make it produce a fair crop of hay, say average a ton per acre for four or five years? The land was broken up and manured in the hill, and planted with potatoes last spring.

Which will be most profitable for fodder, oats cut in the milk, or Hungarian grass? J. P.

*Southampton. N. H., Jan.*, 1867.

REMARKS.—The above are difficult questions to answer. If the land was highly manured and well tended when planted with potatoes, we should think that 300 pounds of bone and three bushels of salt, per acre, would give a yield of one ton of hay per acre, for three or four years—perhaps longer. If the bone and salt were *composted* with *one cord* of good muck, and spread evenly over the land in March or April, we should expect a larger crop and one that would continue longer.

We have no exact data upon which to form an opinion with regard to the comparative value of oats cut while the seed is in the milk and Hungarian grass. While we know that both are excellent, we should select the grass, if taking a choice.

### A SICK CALF.

Last spring a gentleman in Agawam, Mass., gave me a full blooded Durham bull that was three weeks old. He was large, but not very active, being very weak in his back. A few days after I had him, a bunch appeared on the right side of his jaw or cheek. Though kept in a warm place, he coughed and shivered most of the time. The weight of one's hand on his back would make him crouch nearly to the ground. He drooled much. His eyes were heavy and run. What passed him was white and frothy. He drank milk well, but could not eat. He was put it a pen with a heifer calf of about his own age. She soon showed the same symptoms, but in a milder form—both her cheeks being swelled. I took her away and washed her head well in cold water, and she soon got well. But although he was also washed, he continued poor and weak all summer. He had more milk than she did, and run in the same pasture with her. In the fall, when I put them in the barn, she was in good condition, but he was poor. I gave him extra feed and care, and he ate well and chewed his quid naturally. When he drank, however, something troubled him. The difficulty I think was in his throat, as he always drank very slowly, and often choked. He grew poorer all the time, and died a week ago. He ate hay and turnips well the day he died.

No one here ever saw anything like it before. Can you or any of your readers give me any information as to the nature of his disease?

*Jaffrey, N. H., Jan.* 23, 1867. A. B. DAVIS.

### PACKING CABBAGES FOR WINTER.

I saw in your paper directions for keeping cabbages. I have tried all ways recommended, but yours, and also a way of my own. It strikes me yours is the most economical, if not the best in other respects. Will you please to answer me through your paper, the following questions: Do you wet all the straw in packing, or only the bottom? Do you head up the barrel entirely to exclude the air? Do they wilt any, packed that way? Which is best, straw or hay? PHINEAS PRATT.

*Deep River, Mass.*, 1866.

REMARKS.—The above got mislaid or it would have been attended to before this time.

Wet every layer of straw, and cover the barrel with a layer three or four inches thick. They do not need to be headed.

The plan in a cheap and excellent one. We have barrels of cabbages in that condition now.

We prefer straw for packing, though hay answers well.

### FEEDING BEES.

A neighbor had a large colony of bees that came out in September, 1862. They were hived in a nail keg which they filled three-fourths full with comb. Frost occurring early, the bees had but little honey in the comb. Now here was a dilemma. A young Italian queen, for I had reared it, and probably a hybrid in the old hive. The original colony was in the Langstroth hive. I put them in a good warm bee-house and took the super, or cap, off from the Langstroth hive, and set the keg on the honey-board, with holes open under the keg. I expected that the bees above would go below, but the swarms in the spring were separate, and in good condition. I bored a hole in the top of the keg and put on a small box of honey, which the bees took as needed.

Did the warm breath of the bees below contain nutriment for those above? My experience is that when bees are kept at the right temperature, they consume but very little honey until they commence rearing young. C. G. McN.

*Big Spring, Johnson Co., Iowa, Jan.* 21, 1867.

### FILMS ON EYES.

Thirteen years ago, having a horse that had a film commence on the eye, I tried the fresh butter remedy, but to no purpose, as she became entirely blind. Last October one of my horses scratched his eye badly. It wept very freely, and finally a film grew all over it. Several remedies were recommended; among them the fresh butter prescription, but I used none of them. The eye was carefully washed in cool water several times a day, and in a short time his eye was well, though a scar

remained on the eyeball, but not at all injuring its sight. I have another horse that scratched his eye a few days since, but I thought I would not torment him with "tobacco," "checkerberry leaves," or "butter," and it is fast getting well; the film being nearly gone.

I think it much the best way to throw the drugs in the barn-yard, and use nature's own remedy—pure, soft water, hot or cool, as the case may require. If "Z. B." had used water instead of butter, perhaps his colt and dog would have done as well, or better. A. B. DAVIS.

*Jaffrey, N. H., Jan.* 23, 1867.

### EGG-HATCHING MACHINE.

Can you or any of the readers of the NEW ENGLAND FARMER inform me where I can buy an Egg-Hatching Machine, and what is the price of them? JACOB C. CILLEY.

*Exeter, N. H., Jan.* 28, 1867.

REMARKS.—Some months since we gave a cut of such a machine, more as a matter of curiosity than of practical value. The most economical egg-hatching machine within our knowledge, and the only one that we can conscientiously recommend, is an old-fashioned *egg-making machine*, which travels on two legs, is covered with feathers, and may still be found in almost every neighborhood in New England. If we hear of a better one, you shall at once have the benefit of our discovery.

### PLASTIC SLATE.

Having seen notices of this new roofing material, I wish to inquire how it is put on, what is the cost per square or foot? Can it be put upon a leaky felt coal tar and gravel roof, and is it applied to flat as well steep roofs? A SUBSCRIBER.

REMARKS.—The pamphlets of the company give directions in detail; but we shall venture to advise you to employ a workman, as you would probably do in case of plastering the walls of your house. Messrs. Hinkley & Makepeace, agents, 23 State Street, Boston, inform us that the cost is from six to eight cents per foot, or $6 to $8 per "square." The old felt should be removed, and two thicknesses of the new applied. It can be used on flat as well as steep roofs.

### BOTS IN HORSES.

Those who have seen the noble horse fall a victim to these torments, will gladly hail any proffered remedy which shall hold out a reasonable prospect of relief. A new one, (to me, at least,) comes well recommended through the Agricultural Department, which, if it proves successful, will be of great public value.

It was communicated by Brevet Col. J. Hamilton to Prof. Glover, entomologist of the Department, Raleigh, N. Carolina, and was published in the Monthly Report for November and December, 1866, as follows:

"I observe in your report for 1864, that you say that no very certain means of ridding the horse's stomach of the bots has yet been published. Since receiving the following from Dr. Gee, of Florida, I am glad that I have had no opportunity of trying it, but it has the air of efficacy, and I certainly *shall* on the first opportunity. You are aware that it is hard sometimes to distinguish between an attack of the bots and one of the colic; this remedy, however, is equally efficient for either. The reason that a bot can resist the action of agents administered is his power of drawing his head into the walls of the stomach by his tentacles. But he cannot resist the chloroform. A tablespoonful of chloroform screened by a couple of spoonfuls of any good mucilage will make him let go his hold on the stomach even after having bored nearly through."

If you turn to the Agricultural Report for 1864, page 563, it will be seen that Dr. Harris says that "no sure and safe remedy has yet been found for removing the bots from the stomach."

Let any one who has an opportunity to try this simple remedy, do so at once, without fear of its deleterious effects, and report results; also, if any of the readers of the NEW ENGLAND FARMER have tested it, or seen it tested, let them report.

*Farmington, Me., Jan.*, 1867. O. W. TRUE.

### A NEW HAMPSHIRE PIG.

W. H. H. Peabody, of Wilmot, N. H., killed a pig 8 months and 20 days old, that weighed, when dressed, after hanging one day, 505 pounds. Length of pig 6 feet. Thickness through hips and shoulders 22 inches. Fed on milk and potatoes until Sept. 1. Since then has eaten 4 bushels of barley and 13 bushels of corn. H. W. MASON.

*Wilmot, N. H., Jan.* 1, 1867.

*For the New England Farmer.*

## THE RESOURCES OF THE FARM FOR FERTILIZERS.

It has become very well settled by experience, that commercial manures cannot be profitably relied upon to maintain and increase the fertility of the soil in New England.

Our soils will not continue to yield remunerative crops, unless an annual return is made to them, equivalent to the draft annually made upon them. Commercial manures may be used to complement the use of home-made manures, or as stimulants to hasten the maturity of some crops which it is desirable to get ready for an early market, or to secure from early frosts. Except the preparations of lime, they confer no permanent benefit upon the soil, and contribute nothing to its permanent improvement. The great question then for every farmer is, what resources have I within the limits of my own farm, or in my immediate vicinity? These resources will differ considerably, owing to location or topographical situation. One is a hill farm, another is on lowland, and consists of intervale, or meadows. Another consists largely of sandy plains, a fourth is upon the sea shore, and a fifth is in the vicinity of some city, or manufacturing establishment, And again the use to which the farm is put, affects in no small degree its resources for fertilizers. One is a milk farm, another is used in producing market vegetables, a third is a stock farm, and the force of another is employed in raising corn and potatoes. Let us look somewhat in detail into the resources of these several farms. The farm upon the hill is a good grazing farm. It yields sweet grasses, which spring early, but are not so early affected by the frosts as the grasses on the lowlands. Hence, young stock and sheep thrive, and cattle are cheaply fattened in its pastures. Such farms have a source of fertility which is often overlooked by their owners,

although the gurgling rills, and the green stripes upon the declivities constantly invite their attention to it. Irrigation is the great resource for such farms. A small dam across a ravine would often enable the owner to throw the water, in the spring or after the summer rains, over many acres lying upon a lower level, which would give him successive unfailing crops of sweet hay or rich pasturage. A pit sunk a few feet in a side hill and where there would be a fall of thirty or twenty or ten feet, would enable him to throw the water which now breaks out at the foot of the hill, over other acres, with the same result—and this with but a trifling expense. There are hundreds of farms in Worcester county, and in the hilly parts of the State, where ten, twenty or thirty acres of good grass land may be irrigated at very little expense. This irrigation would be equal to a top dressing of manure annually, worth from ten to fifteen dollars per acre. A dressing of this value to such a number of acres, would be properly appreciated by every farmer in the State; and yet, in how many instances do farmers neglect to avail themselves of that which would be of equal value, although the labor would be much less than it would be to haul and spread the manure, even if it were furnished to them gratuitously. Leaves and soil from the forests, loam composted with barn manure, and irrigation are the principal resources of hillfarms.

Intervale and lowland farms, and farms containing meadow and swamp lands, on the other hand, require draining to get rid of the cold surface water, and sweeten the soil. After drainage, dressings of sand or gravel will be found very efficacious. When meadow lands have, by draining and dressing with sand or gravel, become sufficiently consolidated for the plough, barn manure will give large crops of corn, oats or potatoes; and these may be followed by grass, with light dressings of sand or loam, with a plowing once in five or six years. Such lands, if kept properly drained, and occasionally plowed, will be among the most productive of lands for a long time. But the plowing once in a few years, must not be neglected, as there is a constant tendency in such lands for the coarse grasses to come in and kill out the finer grasses, which can be prevented only by occasional plowing and dressing with manure. Large quantities of good hay may be raised in this way, with the use of but small quantities of stable manure. This hay will add much to the means of the farm for raising other crops.

Draining and mixing of soils, then, are the great resources of low-lying farms.

Farms consisting of sandy loams and pine plains usually contain more or less wet meadows and swamps, for the reason that they are so level that the surface water accumulates in the hollows, and forms bogs and swampy places. And thus, as it were by special design, nature provides the means needed and best suited to supply the most urgent wants of such soils. This want is humus or decaying vegetable matter. This is collected and preserved in the swamps and bogs in the form of peat and muck.

This, pulverized by the frost and used alone or composted with barn manure, is the great resource for such farms. They are little retentive of manures, but allow the salts to leach through them in a short time. Peat lasts longer in them than barn manures. Hence composts are better adapted to such soils than crude stable manures. Clay, too, is valuable in improving such soils, as it is retentive of both ammonia and water. When this can be readily obtained, it should be put in heaps or beds of about a foot deep, and allowed to lie for a year or more, and be frequently stirred with the plow or harrow, to break the lumps and make it fine, and then spread upon the surface and plowed in. Thirty or forty loads of clay applied in this way, to an acre of dry sandy soil, will sometimes work a wonderful change in its fertility. The plowing in of green crops is another valuable resource for such farms. Two crops of buckwheat may be plowed in, in a year. The next year, dress with lime and seed with clover, and plow under in July. And in September, seed down with clover and red-top, and you may take off the following year a good crop of hay, and have a good pasture for several years. Such farms are easily worked, and with light dressings of manure, and the liberal use of peat and clay may be made very productive. Where farms lie upon the sea-coast, the waves furnish an unfailing resource which can be easily and profitably used. Within eight or ten miles of the city stables, they furnish the best resource for the market gardener. This manure, when well rotted, and composted with vegetable waste, will bring forward the vegetable crops more rapidly than any other material, and the good cultivator will apply it in sufficient quantity to keep his land always growing better. If superphosphate, bone flour, ashes or plaster are occasionally added, it is all the better, but they cannot be depended on alone by the market gardener. Large quantities of stable manure must be used at the same time. Farmers in the vicinity of soap works, woolen mills, and other mills, will, of course, avail themselves of the resources which such establishments afford.

The milk farmer, especially if he soils his cows, has a resource within himself. A judicious use of dry peat or loam in the barn cellar, enables him to make a large quantity of valuable compost, that will constantly increase his crops of hay or other fodder, by which he will be able to increase annually his stock of cows, and consequently his quantity of compost. Lime in any form, and ashes when they can be obtained, may be used with great advantage, especially on soils that have been exhausted by long pasturage and cropping. And now, brother farm-

er, which of these resources have you upon your own farm, of which you have not yet sufficiently availed yourself? If you find that you have one or more of them, have the courage to resort to them at once, and you will never regret it. R.

*For the New England Farmer.*

## THE GARDEN.

Every one who lives outside of the most thickly settled limits of a city or village, and owns a small piece of ground, usually devotes a portion of it to a garden; and in these times of high prices is supposed to want to make the most he possibly can from it. In order to do this, the ground must be thoroughly worked, and but little devoted to each kind of produce, as we usually desire to produce a variety. The farmer who owns his broad acres is under no necessity of crowding his garden, as he is who owns only a city or village lot; but can have a goodly sized garden with one department devoted to the production of kitchen vegetables; another for fruit, and yet another for flowers. But with the generality of farmers a small portion of ground is all that is usually devoted to the garden, and too frequently this is not made the most of. But I am happy to say that of late years there is more interest manifested in growing a greater variety of vegetables, fruit, &c., and giving the garden better culture and attention.

The garden that satisfied our forefathers will but illy satisfy the more cultivated or dainty appetite of the present age. Few at the present day rest satisfied with the salt meat and potatoes of former days, which constituted the farmer's boiled dinner. A greater variety is craved, and as a general thing we find it conducive to *health* to gratify the appetite in this particular. The gardener or agriculturist performs but *little* work except with reference to future results. If he plants, or sows, he does it with reference to the returns it will make in the future, and patiently awaits the result. The winter, being a comparatively leisure season with the farmer, is the time he should give to study and planning for the coming busy season. Let, then, those who have not a garden suitable for growing a sufficient variety of vegetables, fruits, &c., locate a new one or enlarge the old, and plan it with reference to all the different varieties of vegetables, &c., desired to be produced for a good family supply, from early spring to late autumn, with a supply to store away for winter use. A small portion of ground devoted to a garden and *well* tended will give very much greater profit to a family, than any other equal portion of the farm, aside from the pleasure it affords in having its productions fresh and seasonable. Many things needed for the successful culture of the garden may be got in readiness for spring use, by making new, or repairing old ones.

### Hot-Beds.

No garden is complete without one. They are desirable for starting many kinds of plants and vegetables early before the weather will admit of open air culture. The frames may be got in readiness. If new ones are to be made, they may be made of matched inch boards or plank, the front 12 inches and the back 24 inches high, with the ends slanting to match. The frame should be wide enough for a sash of sufficient length for five panes of 6×8 glass, and of any desirable length; cross bars are placed from front to rear of the frame for the sash to slide upon; and the upper edges of the front and rear sides bevelled to make a close fit. A stock of fine rich garden mould is needed to make the bed. If not already provided, this may be procured when a thaw occurs and put under cover, and turned over occasionally, where it may be had when wanted, for use, otherwise it may be frozen or wet. Cold frames are useful for keeping many kinds of plants under during winter and early spring or other times; these are of similar construction as the hot-bed frame, with this difference, the back side is not as high by 4 to 6 inches.

### Manure.

Here lies the secret of success in good crops both in the garden and field—abundance of manure. Lay in for a good supply and increase it by every known means of saving and adding such materials as may be converted into plant food. Good loam, sods, muck, &c., added to the barn yard, stables, piggery, privy, and hen roost, will add to the supply without deteriorating the quality.

Poles for beans, brush for peas and other trailing plants needing something to run on for support, can be procured and prepared now better than during the more busy season of spring or early summer when wanted for use.

### Seeds.

A stock can be procured, if to be purchased, now, better than later in the season, as at present the seedsmen have a better stock, and are more at leisure to attend to your orders than they will be by and by; look over all seed saved to see that they are in order, and try them by sprouting in wet moss or damp soil in a warm room.

### Tools.

Generally farmers provide but few if any tools expressly for garden use, yet there are a few very durable ones for this purpose; these, if to be purchased, should be procured at the earliest opportunity; if hoes, shovels, forks, &c., let them be of the best quality of steel, and light; they may cost a little more at first than those of poorer quality, but in useing them you will never begrudge their cost, as what was expended in money is more than saved in muscle. If old ones need repairing see, that it is done, and all in order ready for use. Have a tool-

room, and a place for every tool. and when not in use see that it is in place, and be particular after using to clean it dry before putting up. Try this and see the amount of time and vexation it will save you in one short season. Little else than a few similar preparations to the above can be done in either the vegetable, fruit or flower garden, or lawn, so long as the ground remains covered with snow, unless it be to see that the trees, &c., are not overloaded with ice or snow.

I omitted above to say glazed sash for hot-beds and cold frames should be made ready now, by obtaining new or repairing old ones. Have them well glazed and painted ready for use. WM. H. WHITE.

*South Windsor, Conn., Jan* 16, 1867.

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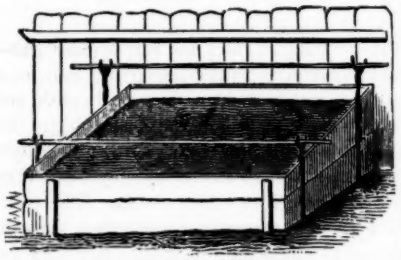
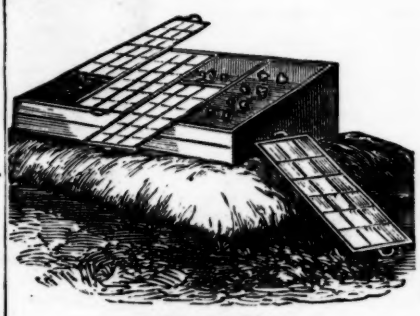
The following cuts will serve to illustrate our correspondent's directions, and may be of service to those who wish to forward a few plants a week or two earlier than can be done in open cultivation. Great experience and care are necessary to the successful management of large and early-started hot-beds. But if not started until after severe cold weather has passed, some time may be gained with much less trouble.



*A Cheap Hot-bed without Glass.*

This bed may be "made up" in less than half a day by any active, handy boy. Old boards or plank, with a few stakes, are all the material needed for the frame-work. It should have a south-eastern or southern exposure, and be protected from cold winds by a board fence or building. It should be some 18 inches deep in front and two feet at back. Fill to within six inches of the top with fresh unfermented horse manure, then to the top with good loam. Over the cross poles an old blanket, or something of the sort is to be thrown every night when there is danger of frost. The cloth must be removed in the morning. It may be well in severe weather to cover with some old boards. Seeds may be planted in pots made of birch bark, pasteboard, or other material, or even between sods, placed in this primitive hot-bed, or the seeds may be sown directly upon its surface. In this way two or three weeks may be gained for plants which require a long season.

But if you wish to experiment a little with a real "glass house," the following cut will give an idea of the construction of perhaps the most simple form.



*Simple Glass Hot-bed.*

To save all digging, it is placed directly on a bed of manure, lying upon the ground. Inside of the frame the manure must be of sufficient thickness to generate the necessary heat, over which, of course, there must be placed soil as directed above.

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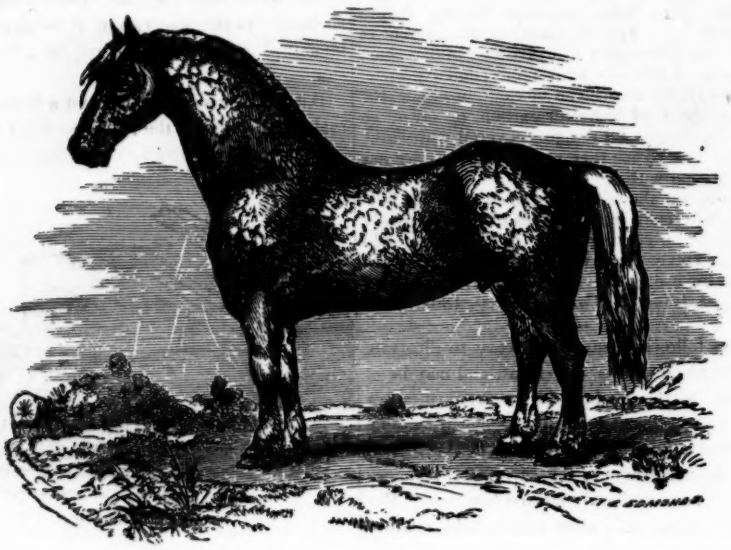
## AMERICA IN MINIATURE.

A great national park is to be established in Washington. A correspondent says it is proposed to make the park a "working model" of the United States—"to delineate, if not to reproduce in miniature, the topography of the continent—to set Huron and Ontario in reduced scale upon a living map some two miles long, not in water colors, but in the element itself—to lead a toy Mississippi, from its baby nursery in the Rocky Mountains, of real rock, through a little continent to a small Gulf of Mexico. The St. Lawrence and the Colorado, and all other great rivers are to be represented by mimic streams; and without intending any allusion to the exclusion of the States lately in rebellion, all the States and Territories are to be represented, preserving their relative position and proportion. It is proposed that museums shall be erected upon each of these little representative tracts, and that the States and citizens shall be invited to contribute to their cabinets specimens of the natural and artificial productions of the States represented."

This is a grand scheme, and will require considerable ingenuity and labor to carry it out. It would be altogether unique and a great addition to the attractions of the capital.



THE CLYDESDALE HORSE.

The river Clyde, on which the city of Glasgow, in Scotland, is situated, has the honor of floating the first steamboat ever built in England, and of christening one of the best breeds of draft horses in the world. The Clydesdale horse owes its origin to a cross of a stallion from Flanders with the best mares of the parish of Lanark, one of the many beautiful towns situated on the river Clyde. Mr. Youatt says that the Clydesdale, although inferior in weight and physical strength to the black horse, is larger than the Suffolk, and has a better head, a longer neck, a lighter carcass, and deeper legs; he is strong, hardy, pulling true, and rarely restive. On the road these horses perform tasks that can scarcely be surpassed, and in the fields they are found steady, docile and safe. Mr. Low says that the Clydesdale horse as now bred is usually sixteen hands high. The prevailing color is black, but the brown or bay is common, and is continually gaining upon the other, and the gray is not unfrequently produced. When in England, Mr. Sanford Howard, now of the Michigan Agricultural College, saw many of this race in the principal breeding districts, and at fairs, &c. He says their weight ranges from 1700 to upwards of 2000 lbs. "Many of them are very symmetrical—are higher in the withers, and particularly more oblique in the shoulders than the English, and walk with ease and rapidity, equalling in this gait any horses I have ever seen. They have good constitutions and are cheaply kept. They are seldom driven out of a walk. The Scottish farmers generally keep lighter kinds of horses for the road. In some of our cities the supply of draft horses has been, of late, obtained in part from Canada West, where a cross of the Clydesdale prevails to some extent."

The above cut is a tolerable representation of this breed of draft horses. And we introduce it for the purpose of suggesting to the breeders of horses the expediency of giving more attention to the rearing of heavier and stronger horses than those which have so generally been exhibited on the grounds of our agricultural fairs.

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☞ The Vermonter who was imprisoned in Ohio, on a charge of blackening sheep and selling them as merinoes, has turned the tables. His sheep were genuine, and the prosecutor is now in jail for false imprisonment.

From the Round Table,

## SNOW BIRDS.

BY W. L. SHOEMAKER.

I.

The tanager and oriole
Are birds of finest feather,
And their sweet songs delight the soul
In sunshine summer weather;
But they have flown away with hosts
Of other swift or slow birds,
And hither now from polar coasts
Fly flocks of merry snow-birds.

II.

The blackbird and the bobolink,
The pewee and the swallow,
From Winter's withering breath, too, shrink,
And Summer's footsteps follow.
In the crisp meads, and bleak, bare trees,
I find but few or no birds,
Save those that love the chilly breeze,
The lightsome little snow-birds.

III.

The brooding wren, her wooden house
Has long ago left lonely;
In many a home on wild-wood boughs
There nestle dry leaves only;
But Winter, who drives birds away,
Would on us fain bestow birds,
To soothe the rigor of his sway.
So sends the twittering snow-birds.

IV.

The robin's with us yet, I know,
The chickadee and blue bird,
And so, too, is the sable crow,
Through every change a true bird;
But winter is no friend of theirs,
No good these rude airs blow birds,
They seem to think;—and not one shares
The joyance of the snow-birds.

V.

When all the air is dark and drear,
And clouds o'er Heaven are flying,
And wailing winds we shivering hear,
The tempest-prophesying;
Like jolly sprites, in garments grey,
Lo! sudden come and go birds;
We look around, and sigh, and say,
"'Twill snow, for there are snow-birds!"

VI.

'Tis true, they oft are harbingers
Of rough and stormy weather;
But joy, not grief, my spirit stirs,
To see them sport together.
Methinks they're for our solace sent,
And counsel, too, although birds,
For who on dark days teach content
So well as do the snow-birds?

VII.

The snow, by many signs foretold,
Now fast, at last, is falling;
The lone, lost winds, grown bitter cold,
With muffled voice are calling.
O! how will now those revellers fare?
No ruth the frost-imps show birds,
Vain fear! they for no shelter care,
The tiny stoic snow-birds.

VIII.

For they were cradled in the storm;
Their males were icy breezes;
Their good grey coats will keep them warm,
Whatever round them freezes.
Ah! let us pray that One above,
As we are not below birds,
Will guard us with His heavenly love,
Ev'n as He guards the snow-birds!

*For the New England Farmer.*

## CULTURE OF POTATOES.

Read by Mr. James P. Brown, before the Concord Farmers' Club, Nov. 22, 1866, in reply to the question, What kinds of potatoes shall we raise for family use, or for market?

I suppose that one farmer would name one kind, and another some other. For fall or early winter, the *Jackson Whites* are best; for late or spring use, I prefer the *Garnet* or *Davis' Seedling*. For market, the Jacksons are decidedly the best, as they sell better than most other kinds. Besides this, I can raise about one-quarter more Jacksons' on the same ground, than of any other sort. The difference in cultivation, I should think, is in favor of the Jacksons, as they can be planted a little nearer together than other kinds.

To raise a good crop, there are three or four things to be considered. First, we must have good land and a plenty of barnyard manure, with good seed and good cultivation. I prefer to take land that brought rye the preceding season, plough in the stubble in the fall, at least eight inches deep; then in early spring cart on twenty-five ox-loads to the acre of coarse manure from under the barn, spread as even as possible, and plough in about five or six inches deep, with a small plough. Harrow it down smooth, then furrow with a small horse plough about three feet each way. For seed, I prefer to go to Boston and buy the best seed I can find of the late Jackson sort, cut them fine—not having more than two eyes to the piece—and put two pieces in the hill; apply a little plaster, cover them lightly with a hoe, and as soon as they begin to break ground run the cultivator through both ways, and it will not be much work to hoe them. In about ten days go through the same operation again. If the land is pretty clear from weeds, three times hoeing will answer; if not, go over it the fourth time. I planted about two and one-half acres in this way, and raised 550 bushels of good, sound potatoes this last season, which I think was a very good crop. If I desired to plant grass land, I should plough in the fall, and proceed as before stated.

*For the New England Farmer.*

## WOOL TARIFF.

Of what avail is it, fellow farmers, that we embrace by actual count three-fourths of the voters, and more than that proportion of the taxable property of the country, if we are disregarded in the Senate, and degraded in our own markets to competition with the outlaws of Britain in the Old World, and the half savage tribes of the New? What is the policy—what the justness of such a state of things? What did England do for us, in our life struggle, that the product of her convict labor in Australia should take the place of that of our tried and true citizens in their own market? We surely wish all the South American States

well, but what peculiar claim have they upon our charity, that they find in our ports what is to them a prime market for a vast amount of wool, to the ruinous depression of our own heavily taxed product?

For what are Governments formed if not to protect the people from external as well as internal encroachments upon their welfare. Even the private citizen, who neglects to provide for his own house, is by the highest authority pronounced "worse than an infidel." Our national existence we consider of the greatest worth. It cost us dearly to preserve it. The price is not yet paid. Twenty-five years of extra taxation is the shortest time yet mentioned in which it can be canceled. Should not, then, every art, every industry, every production that is, or may be American, be fostered? What did Napoleon I. in his gigantic wars? English products were by the Berlin decree excluded. Every product and improvement was stimulated; every art encouraged, so that after the lapse of a quarter of a century of frightful war, France could show a better financial condition than at the beginning.

We are not now asking the exclusion of foreign goods, but we do ask a just protection. We ask that our patriotism and our citizenship be not dishonored by placing us in competition with the half-savage, convict and pauper portions of the world. HENRY C. FITCH.

*North Thetford, Vt., Jan.* 7th, 1867.

## TRAINING COLTS.

Let the education commence with the birth. The colt should be fed with a little oats in a pan; it will soon learn to feed from your hand. It should then be fondled and petted, at the same time the hand should frequently be passed over the body and occasionally carried down the limbs. The tiny feet should at length be raised, and afterwards the hoof be gently tapped. These things should be repeated till they are submitted to without any evidence of fear being excited by the liberties taken.

When weaning has by the process of nature been accomplished, the colt should not be turned out and neglected until it is old enough to work; it should still be sheltered and nourished, the previous lessons being enforced with greater emphasis as the age progresses. When kept in the stable it should be accustomed to the harness, wearing it a few hours in the stall. He should next be taken out and led gently about to get accustomed to the rattling of the chains. No attempt should be made to put the colt to work before he is three and a half or four years old.

If the colt has been treated as previously directed, there will be little difficulty in breaking him to harness work. Put him by the side of an old and steady horse, and a light wagon without a load, and handle him gently, until he is made to understand what is required of him. When about to put him in single harness he should be brought out and have the wagon shown him, being allowed to smell it and examine until he has become familiar with every part of it. Every part of the wagon and harness should be strong and well made, so that there can be no possibility of breaking. When he is put in the vehicle, every strap should be buckled securely and none left to strike against him. He should then be made to advance, and the wagon gently pushed from behind. that he may not feel its weight for a short distance. The horse should on no account be allowed to trot until he is perfectly familiar with the sound of the wheels. After being driven several times he may be trotted gently, but should not be put to his speed nor kept in harness until he is tired out.

Most harness horses are too imperfectly broken. Their education is too hurried, and seems to be considered perfect as soon as the animal will merely take to the collar. Many young horses are soon ruined by the unfeeling employment of the bearing rein, which disables the organs of respiration and renders the lightest draft a burden. When starting to drive a young horse, the driver should mount his seat quietly, gather up his reins, and get his horse under way quietly by speaking or chirrupping; never starting with a jerk or striking with a whip—allowing him to increase his pace by degrees to the speed required, instead of forcing it on a sudden. Keep at a regular gait; do not go by fits and starts.—*Am. Stock Jour.*

## LABOR.

Many sermons have been written on the "dignity" of labor, and much pains has been taken to persuade young men that it is "dignified" to roll up their sleeves, and toil and sweat in the dirt. Has any one been persuaded that this is "true preaching," and, if so, has he been prompted by it to go to work? No. No man ever worked because of the dignity of labor, and the argument may as well be dropped.

Most men work from necessity, or what seems to them so,—all should work because it is their *duty*. This is the word—DUTY. It is due to himself, his friends, his country, and, above all, to Him who gave the faculties and the power to work, that every young man should take hold at once of that which lies before him, and do it with his might.

We like, therefore, the preaching of Gov. Wm. Smyth, of Virginia, who, in his speech at the Farmer's Convention at Richmond, is reported as follows: "When he got home after the war, he found citizens of the village standing at the corners of the streets, the young men idle—but he reminded them of their duty. He told them if they could not earn a dollar a day then they ought to take less, and they would have the consolation of knowing they had done their duty. That was the principle." This is indeed the "princi-

ple,"—the very beginning of all right doing, that a thing be done because it ought to be done.—*American Farmer, Maryland.*

## A WINTER MORNING.

BY ANDREWS NORTON.

The keen, clear air—the splendid sight—
We waken to a world of ice,
Where all things are enshrined in light,
As by some genii's quaint device.

A shower of gems is strewed around,
The flowers of winter rich and rare,
Rubies and sapphires deck the ground,
The topaz, emerald, all are there.

The morning sun with cloudless rays,
His powerless splendor round us streams;
From crusted boughs, and twinkling sprays,
Fly back unloosed the rainbow beams.

With more than summer beauty fair,
The trees in winter's garb are shown;
What a rich halo melts in air,
Around their crystal branches thrown!

O God of Nature! with what might
Of beauty, showered on all below,
Thy guiding power would lead aright
Earth's wanderer all thy love to know!

## MASSACHUSETTS BOARD OF AGRICULTURE.

The State Board of Agriculture met at the office of the Secretary, at the State House, on Thursday, Jan. 31st. Present, Messrs. Billings, Bull, Chadbourne, Clement, Davis, Hosmer, Hubbard, Huntington, S. Johnson, J. Johnson, Jr., King, Moore, Perkins, Saltonstall, Sanderson, Slade, Smith, Stedman, Stockbridge, Taft, Thompson, Ward and Watkins. Mr. Davis in the chair.

Thursday's session was chiefly occupied by the delegates appointed to attend and report upon the exhibitions of the several county societies.

As we have not space this week for any extended report of the proceedings during the sessions of Thursday, Friday, and Saturday of last week, and of Monday and Tuesday of the present week, we can only say that the business has been transacted promptly, and that the reports and discussions were most interesting,—too interesting and valuable, it strikes us, to be confined to a narrow room in the basement of the capitol. True, they will be printed and read, but why should not the living voice as well as the printed report reach the people who are interested in the subjects upon which the Board have been in deliberation these five days past?

Among the subjects which we were fortunate enough to hear reported upon and discussed, were an essay by Pres. Chadbourne on the Culture of Chicory; by Mr. Smith, on the management of Agricultural Societies; by Mr. Stockbridge, on Plants as an Indication of the nature of the Soil; by Mr. Moore, on the Adaptation of Crops to Soils; by Mr. Clement, on Transplanting Fruit and Forest Trees; by Mr. King, on the Cultivation of Cranberries; by Mr. Hubbard on Dairying; by Mr. Clement, on the Agriculture of Middlesex county; by Mr. Perkins on Agricultural Education; by Mr Hubbard on the Agriculture of Worcester South, &c.

Pres. Chadbourne made a statement in relation to the State Agricultural College. His suggestion that each of the twenty-five agricultural societies, represented in this Board, should, by subscription or otherwise, procure a scholarship to be awarded by them, under such regulations as they saw fit to prescribe, to some meritorious young man who would engage to remain in the county after his education was completed, appeared to be well received by the members of the Board, as were also his other statements and suggestions in relation to the institution of which he is now the head.

Among the many items of business which were passed upon, the following seem to deserve an early publication:

*Voted*, That the Secretary of this Board be requested to notify all of the Societies receiving the bounty of the State, that hereafter in addition to the financial returns now required by law to be made on or before the 10th day of December, they will be required to return a full and complete report of their doings, printed in pamphlet form on or before the 15th day of January following, and that the Secretary will not be authorized to certify to the legislature, or to the State auditors that a society has complied with the law and is entitled to its bounty unless it has conformed to this requirement.

*Voted*, That the several Agricultural Societies receiving the bounty of the State, be hereafter required to offer annually three premiums of not less than eight, six, and four dollars, respectively, for the best reports of Committees who recommended premiums.

☞ The Rhode Island statute prohibits the offering of quails or partridges for sale in the markets after the 1st of January, and a Providence man was lately fined $2 and costs apiece for every bird of a lot which he tried to sell in violation of the law. The quails were killed in Ohio, and brought to Providence for sale, but the law did not recognize the distinction.

☞ There are but seven scholars in the Vermont Agricultural College.

## Ladies' Department.

# DOMESTIC ECONOMY;

OR

# HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

### CHAPTER II.

### HOUSE PLANTS—THEIR CARE AND CULTURE.

Plants that are cultivated within doors are generally exotics, and, being for the most part natives of warmer climates than ours, they require shelter through the winter. While we supply that necessity, there arises a desire to receive from them, in return, the beauty and fragrance which they yield naturally only during the summer;—for, although we hear of countries where "The roses are blooming all the year round," this is not absolutely the fact —they must have seasons of rest, or they soon die of exhaustion.

The time of their blossoming may be changed, however. Indeed, in the case of tropical plants that have been adopted by us it has been changed, or our winters would not be gladdened by their cheerful presence. Luxuriant green foliage is always pleasant to the eye,—more particularly when all else looks barren and dreary. But we do not feel satisfied with that alone. We want mingled with that verdure the bright colors and the sweet fragrance of beautiful blossoms. A knowledge of the habits of each individual plant which we take under our care, and of its susceptibility to the influence of certain substances which we furnish it for food, and a clear understanding of the principles of floral art, together with a strict attention to the hints which Nature is continually giving us, will bring about the desired result—buds and blossoms waiting or coming at our will.

Our grandmothers can tell us that before the use of stoves and furnaces (*steam*, even,) for the heating of our houses, nobody,—except those few, who, making the propagation of plants a business, built winter houses for them, —thought of keeping plants alive, much less, in bloom, out of the cellar. If one was fortunate enough to own a monthly rosebush, or an orange tree, or a Jerusalem cherry; a prickly pear, a sweet-scented geranium, or a hydrangea (that wonder to my young eyes,—with its huge balls of flowers changing so mysteriously from white to pink, to blue, and back again to white,)— it was wrapped in mats, as soon as frosty nights came, and banished to the "arch," the "donjon-keep" of childhood's imagination, there to pass the time in inglorious idleness till the spring breezes wakened the young buds of the trees. Then they were released from their prison, and, restored once more to the sunshine and free air, they quickly regained their wonted vigor and loveliness.

This ancient necessity is now-a-days sometimes held as a threat over plants that do not flourish and blossom just when and as we wish, in the same way that injudicious mothers talk of the dark closet to rebellious and refractory children; and it must be confessed that, oftentimes, as with those unreasonable mothers, the threat is actually executed, through pretence of benefiting the unfortunate objects of our neglect, when in reality it is to rid ourselves of the presence of a standing disgrace. Faithful and loving care in either case,—gentle pruning of wrong tendencies, warm encouragement of feeble efforts that are put forth in the right direction, and a patient watchfulness against all hurtful influences will ensure to both mortal and immortal plants that true symmetry of growth, that strong and rich flourishing, which will conduce to the perfection of the good fruit for which they were designed by an all-wise and benevolent Creator.

If house-plants are, usually, exotics, there is no good reason why we should not also take to our hearts and homes the lovely things that make beautiful the solitary paths of the forest; that enamel the meadows, and embroider the margins of our summer streams and lakelets. So, when the spring opens, with the first coming of May, it will be well to give ourselves a holiday from household cares, and go with the children in search of floral gems. We shall want a trowel, and a basket, and one of the boys had better bring a spade. We must be provided, too, with thick gloves; and a stout knife may not come amiss. Of course, overshoes and winter clothing will be worn, for the fields are yet damp, and we shall be obliged to cross marshes. We must get at least two spec-

imens of the dark-leaved Sanguinaria, called by the country people Blood-root, for its delicate flower so nearly resembles the orange blossom that it can very well take its place at any wedding of our friends next winter. We will take also a plenty of the damp, boggy earth where it dwells, so that it shall not miss its usual nutriment; and, gently loosening its root, by the aid of the trowel, from the tangled vines around it, place it with this soil in the basket.

Next we will select a group of Hepaticas, or Liver-wort; and cutting the turf carefully with the knife, lest the roots should be detached from the fibrous peat where it first opened its eyes, lift the whole clump with the spade, and place it with the Sanguinaria. These are all the roots wanted to-day. We shall gather from among the last year's dead leaves handfuls of the sweet Arbutus, or Mayflower, for vases at the home; and set the children hunting for the tiny buds of the Houstonia, or, as we love to call it, Innocence; and look ourselves after the shy violets; by and bye, when the sunshine has lured them from their beds, and the velvet casket of the young spring grass is lit up with their sapphires and pearls, we will come and take our choice for a new setting with our family jewels. But we must not spend the whole day in the woods,—the roots we have taken ought to be potted immediately.

It will be well to set the two Sanguinarias in separate pots; in the autumn they can be put together, if both live. Pots three inches in diameter at the top will be the proper size—No. 9. Let the children gather a handful of pebbles about the size of a plum-stone. Put eight or ten of these in the bottom of each pot, then a little of the bog earth, to which you have added—sprinkling it in with the hand—loam, from an old bed in the garden; then more of the bog earth. Now, set the root of the plant exactly in the centre, hold it gently in place with the left hand, with the right add more of the soil and loam, till the pot is nearly full. Press it lightly around the collar of the plant—just enough to keep it steady, not hard, nor closely. Strike the side of the pot two or three times, to settle the earth firmly. Add a little more soil, and strike in the same manner, till the earth lies evenly around the plant. Fill the pot nearly to the rim. Water with warm water. If, after watering, the soil is loosened around the plant, add a little more. Pinch off the flower buds. Keep the plant in a shady place till August—watering it every day, freely. Then bring it gradually to bear the sunshine,—but it never needs much; you can keep it in the winter on a bracket at the side of the window, and it will spread out its large leaves and lift up its pure blossoms as gaily as as in its native marsh.

The clump of Hepaticas must have a pot of the next larger size. Place the pebbles as for the other plants, cover them with rich loam, and then set upon it the turf in which the hepaticas are still firmly fixed—it will do better if the roots are not disturbed. Fill in around the crevices more of the loam. Shake the pot to settle it well, and water as you did the Sanguinarias. Cut off the blossoms, and all the buds as fast as they appear—because you wish for bloom in the winter. Set the pot in the shade. In order that no worms shall get into pots that are kept out of doors in the summer, a space should be set apart for them, and the coal clinkers and fine cinders left from the winter's fires should be spread over it, and on these place the pots. Treat this as you do the Sanguinarias, only it will want a front place at the window when cold weather comes, if you desire deep blue flowers.

When the violets are in bloom go again to the woods, and take your choice of the different species, and do for them as for the hepaticas. Then, if you wish to domesticate more wild flowers, get the beautiful blue Harebell, in its season; and then, the elegant Lobelia cardinalis. There are the Ferns, too, so curious, and of such easy culture; and the Mosses,—don't forget them. A very pretty ornament for the table, or the mantel, is a dish of Ferns, or of Mosses. Early in October go to some sequestered spot in the woods and bring away as many kinds as you can. Get them, as you did the hepaticas, still clinging to their native soil. A common deep dish is the best thing to hold them. Fill the dish with leaf-mould,—that is, the rotten leaves and fibrous soil of the woods—so that it is a little higher in the centre; set your Ferns securely in this, and arrange around them bits of the different kinds of moss. Set this dish within another two sizes larger. Fill the outer dish with water. Get a bell-glass to fit the inner dish, like the glass cover used by confectioners and bakers for their show-cake. It will rest, without the in-

ner, in the water contained in the outer dish. Occasionally supply water, it will need it very seldom, however,—by its evaporation it feeds the plants in the form of dew and the first supply will last a long time. Mosses can be grown very nicely without this cover and outer dish, if you water them as other plants are watered and keep them in the shade. In collecting your mosses, try to find other little things to grow among them. A tiny seedling pine, or juniper; a bit of houstonia; an anemone; a root of the partridge berry, will add greatly to the beauty of your mound; especially if you set the littte trees in the centre, and arrange the mosses and flower-roots tastefully.

So much for native plants. Let us now turn our attention to their naturalized brethren, upon whom we mainly depend for winter flowers.

In deciding what varieties we can best attend to, regard must be paid to the space we can allow for their accommodation. They must be kept in the family sitting-room where the air will be of the proper and most equable temperature. You can probably spare one window for their use. The best stand for a few plants is very simple—only a narrow table as long as the window is wide. On this place a shallow wooden tray (what might be called a flat drawer, being only about an inch and a half deep) lined with zinc, or galvanized iron; in this most of your pots should be placed. Five of the smallest size that you have, holding plants of low growth, for the front row; behind them four, possibly, five, taller and larger; and, if the tray be wide enough, get another row of larger plants. The pots ought not to touch, there should be a free passage for air around and between them. Cover the floor of the tray with moss, after you have arranged your pots; this will absorb whatever water is spilled in watering, and, also, give the stand a neat and pretty appearance.

At each side of this, if you have an oleander and abutilon tall enough to reach the sunshine when set upon the floor, lay a small piece of painted canvass, and upon that either zinc or galvanized iron for the accommodation of those two pots. Hanging plants are so graceful you will want them for the upper part of the window,—one for the centre, and, if it be pretty wide, one on each side of that depending a little lower. An ivy will look well placed on a bracket in the corner of the room, if its branches are trained over the wall, and around pictures. A large-flowered geranium, or a rosebush is also an elegant ornament placed in such a situation; and will flourish well if the sunshine reaches it, or if you let it exchange places part of the day with some plant on the stand. For a bay window a longer and wider stand may be used; or three smaller ones, or one with graduated shelves, according to your fancy. Some arrange shelves on small supporters or brackets, near the panes. These have a fine effect for out-of-door admirers, but if you wish to enjoy the beauty of your flowers yourself, and to have your family enjoy that beauty also, the movable stand is preferable, as its position can be quickly and easily changed to suit your vision, and in case of sudden change in the weather the plants will be much safer. If, however, any plant gets frozen, place it in cold water, and keep it away from the sun till the leaves resume their natural appearance.

To ensure early blossoming, potting should be done in June, and the plants be suffered to rest in a shady, cool place, with very little watering, till September. Most of them can then be brought gradually to the full sunshine, and by the middle of October they should be fully established for winter.

The proper kind of pot has been mentioned, but the soil varies with different plants. This is an important point. Each plant should be so studied that no mistake can be made in this respect. For most plants the turf of peat meadows thoroughly dried and broken up, mixed with leaf-mould, or other decayed vegetable matter, is considered the best. To this is added rich loam and sand, according to the native soil of the plant. With this, to deepen the color of the flowers and to increase their beauty, bits of old iron, rusty nails, and charcoal dust are frequently mixed. For draining, upon which the health of the roots depends, small pebbles, broken brick, or crockery, or flower pots, coal clinkers, or cinders must always be placed in the bottom of the pot.

Fertilizers are best applied in a liquid form, and they should be used sparingly. They are good to force the growth of the plant and to hasten the blossoms; if it is wished to delay the time of flowering all fertilizers should be avoided and the sunshine denied. It is a good plan to prepare for winter use a fertiliz-

ing mixture, composed of stable litter and droppings from the hen roost or pigeon house. Equal parts of these three making one quart of the substance is best; to this add a quart of pounded charcoal. Put this mixture in a keg and pour upon it three gallons of water. Stir it every few days for a fortnight, it will then be ready for use.

If the leaves of your plants do not put forth as rapidly as you wish, take half a pint of this liquid and dilute it with clean warm water, and pour it upon the soil near the edge of the pot. There will be sufficient for half-a-dozen pots, unless they are very large. Use it once in three days, three times; then wait ten days, and give the same again. This will probably be sufficient for the winter; if not, after waiting a month, try again going through the same process.

Now, a few words about colors; in arranging your flowers have regard to contrasting tints and the harmony of the whole.

Too great a variety of colers in a group of plants is as detrimental to their beauty as it would be in a person's dress or in the furniture of a room. Scarlet and crimson should never be together; different shades of either look well, but the two do not harmonize. Scarlet has a good effect with white and green; or scarlet and deep blue and deep yellow with plenty of green, distinct all from each other, and the green preponderating. Bluish white and rose color, and dark glossy leaves agree well; bluish white harmonises best with delicate colors,—clear white, with brighter gaudier hues. A variety of white flowers is a great addition to the beauty of a group.

The three primitive colors may be all together—red, blue, and yellow—provided they are all pure; the red only one kind of red, the blue not purple, and the yellow not orange; then with plenty of green and white, the group will look well. But if you put only blue and yellow with the green the eye naturally looks for the complementary color, red, and feels the deficiency. Scarlet, crimson or pink, mixed with green alone, satisfy the eye; and purple, being a mixture of blue and red, contrasts well with yellow—orange, formed of red and yellow, with blue. Pink and pale blue contrast and at the same time harmonize well; these with delicate green and white make a pretty show. Keep these facts in mind when about procuring your plants and you will be saved many regrets; above all, remember how much white flowers will enhance the beauty of all the rest.

It has been estimated that there are over one hundred thousand species of plants now known and the number is constantly increasing as new countries are visited by naturalists. In comparison with that great number, the following list seems small; but it will be found to comprise a good variety of colors and forms, and they are all well adapted to house culture.

Abutilon, Agapanthus, Alyssum, Amaryllis, Arum, Auricula, Azalea, Begonias, Cactus, Camellia, Calceolaria, Carnation, Chrysanthemum, Daisy, Daphne, Eupatorium, Fuchsia, Forget-me-not, Geranium, Heliotrope, Hepatica, Hydrangea, Hyacinth, Ivy, (English, German, Coliseum,) Lantana, Lemon, Lily of the Valley, Lobelia, Mahonia, Mignonette, Mimulus, (Monkey flower,) Myrtle, Oleander, Orrange, Oxalis, Pansy, Petunia, Pink, Primrose, Pyrethrum, Periwinkle, Rose, Sanguinaria, Salvia, Verbena, Violet, Wall flower.

Abutilon.—Greek name for mulberry which the leaves of many species resemble in shape. Native of New Holland and South America, in light sandy soil. Fill pot a quarter full of broken crockery or shreds for good drainage. Soil, two parts loam, one part leaf mould, one part sand; if too rich it will grow too tall for forming handsome side branches. Keep moderately moist, not very hot. It is readily increased by cuttings placed in a gentle heat. First introduced to notice in 1821. *A. Venosa*—so called from its deep red veins—is very beautiful, bearing large yellow bells. *A. Esculentum* is much esteemed in Brazil; at Rio Janeiro the inhabitants dress and eat the flowers with their food.

*A. Striatum* is nearly always in bloom. Its bells, of a bright golden yellow, hang on slender, graceful stalks that make a fine appearance if well trained to a stake or a frame.

Snow and sleet against the pane
  Tell of winter cold and dreary;
But within doors, blithely reign
  Bloom, and summer, bright and cheery;
Building up her leafy spire,
Day by day still high and higher,
  Of my flowers the fairest one,
  Grows my gay abutilon.

Heedless of the frost and cold,
  Hanging out her bells of amber

Veined with scarlet, tipped with gold,
As the boughs aspiring clamber,
Like a bright pagoda seeming,
When the sunlight inly beaming
On her bells its rays hath thrown,
Stands my fair abutilon.

AGAPANTHUS, or African lily.—Name signifies *lovely flower*. *A. Umbellatus* frequently sends up a flower stalk three feet high. The flower is of a beautiful blue color. The plant is easily cultivated in large pots; in a soil consisting of two parts loam and two leaf mould. Needs plenty of water. Must be shifted often into larger and larger pots—generally in the autumn before taking to the cellar. It is generally kept for an ornament of the verandah during the summer. Take off offsets till the flower buds are formed; the plant will be very large before blooming, so the roots must have a good deal of room, and be watered liberally. First introduced into Europe, 1692. One variety has white flowers and another variegated foliage.

ALYSSUM, called sometimes Madwort.—The ancient Greeks thought if taken internally it allayed anger. A native of Switzerland and the South of Europe. It is well adapted to edgings for beds—is injured by much wet—but also must not be kept too dry; is easily raised from seed or cuttings. It needs a soil of good rich loam. A pot of this little plant looks pretty with pots of daisies and pansies during the winter, and is in much request as a funeral flower.

AMARYLLIS, or Belladonna Lily, takes its name from a nymph celebrated by the old poets. The word means shining, resplendent; which applies well to the elegant orange scarlet flower. It should have rich loamy soil. After it has done blooming give it but little water, that the bulbs may harden; it will then be more likely to produce flowers another season. Many plants ripen seed, which, dropping upon contiguous pots often furnish a number of good bulbs ready for transplanting almost before you are aware of it. A piece of the outer coating of the bulb with a leaf attached will produce another bulb.

AURICULA.—This is sometimes called English Primrose. It is a native of Switzerland, Italy and Germany. It is also found in Persia, of great beauty and fragrance. First brought from Switzerland to England in 1596, where it has always been held in high esteem; especially in the manufacturing towns. The weavers and mechanics of Scotland and of Lancashire, Eng., cultivate it very extensively; and it is no uncommon thing for a workingman who earns only eighteen to thirty shillings a week to give two guineas for a new variety. It needs rich soil with good drainage.

AZALEA.—The name is derived from a Greek word signifying dry; in allusion either to the places where it is found, for it loves an arid soil or to the brittle nature of its wood. It thrives best in sandy fibrous peat soil. The pot must be well drained with clinkers, and care must be taken not to overwater it. It can be transplanted at any time, even when in bloom, with a ball of earth about the roots. Young cuttings taken off close to the plant will root readily in pots of sand. Keep it out-of-doors in the summer in a shady place. When it is done blooming keep it warm and well-watered, till the growth of the new wood is perfected; after that give less water; but do not let the roots become dry, for it will die if the moisture does not reach them.

*A. Indica*, bearing yellow flowers, is the most delicate; this comes from India.

*A. Rubra* is a native of North America, bears crimson flowers.

*A. Alba* comes from China; has double white blossoms.

Some of the species have narcotic qualities. Of these is *A. Pontica*, which bears yellow flowers. It is a native of Turkey. The juice in the bottom of its flower-cup is poisonous, and is said to communicate this poison to the honey of Pontus. It was asserted by Xenophon that the honey gathered by the bees from these flowers caused the death of many soldiers in the famous retreat of the ten thousand.

The Azalea is often crossed with the Rhododendron and curious hybrids are thus produced.